No.01

Oki Data CONFIDENTIAL

C5450/C5400/C5540/C5250/C5200/C5150/ C3200n/C3200/C3100/C5510 Color LED Page Printer Maintenance Manual

ODA/OEL/INT

[Rev. 10]

BOM | Use for | Certification Body

Rev	Date	DCO No.	Contents	Design	Approval
6	2005-03-02	SP7-2611	Add C5450/C5250/C3200	Hideki Enomoto	Hideki Enomoto
7	2005-07-04	SP7-2834	Add C5540/C5510	Naomi Eguchi	Hideki Enomoto
8	2005-08-24	SE2-0399	Partical change	Masahiro Sonoda	Toru Endo
9	2007-04-18	SB4-0053	Change 4.2.6 and 5.5.1 (Note)	Akira Nakayama	Koichi Negishi
10	2008-12-19	SG2-0016	Addition of “Warning”, etc.	Tomoyo Sugiyama	Yoshinori Fujisawa

Approval: Yujiro Iida | Design: Sakae Ogashiwa | Name: C5450/C5400/C5540/C5250/C5200/ C5150/C3200n/C3200/C3100/C5510 Maintenance Manual

Check

Date: 2004-03-12 | **Oki Data Corporation** | Drawing No.: 42615101TH | 1/264

Document Revision History

Rev.No.	Date	Corrected items			Person in charge
		No.	Page	Description of change	
1	2004-03-12			ISSUE	MD11 Ogashiwa
5	2004-10-29		Total pages	Change considerably	ME3 H. Enomoto
6	2005-03-02			Add C5450/C5250/C3200.	ME3 H. Enomoto
7	2005-07-04			Add C5540/C5510.	ME2 N. Eguchi
8	2005-08-24			Partical change	HD16 M. Sonoda
9	2007-04-18			Change 4.2.6 and 5.5.1 (Note)	HP22 A. Nakayama
10	2008-12-19		52,70,71,94	Addition of “Warning”, etc.	EP5 T. Sugiyama

PREFACE

This manual describes the procedures of the maintenance of the C5450/C5400/C5250/C5200/C5150/ C5540/C5510/C3200n/C3200/C3100 printers.

The document is produced for maintenance personnel use. For details on the procedures for handling the C5450/C5400/C5540/C5250/C5200/C5150/C3200n/C3200/C3100/C5510 of printers, see its user documentation.

Note!
- The descriptions in this manual are subject to change without prior notice.
- In preparing the document, efforts have been made to ensure that the information in it is accurate. However, errors may be crept into the document. Oki Data assumes no responsibility for any damage resulting from, or claimed to be the results of, those repairs, adjustments or modifications to the printers which are made by users using the manual.
- The parts used for the printers are sensitive and, if handled improperly, may be damaged. It is strongly recommended that the products are maintained by maintenance men registered with Oki Data.
- Remove static electricity before working.

CONTENTS

1. SPECIFICATIONS 7
- 1.1 System Configuration 7
- 1.2 Printer Configuration 10
- 1.3 Option Configuration 15
- 1.4 Specifications 15
- 1.5 INTERFACE SPECIFICATIONS 20
  - 1.5.1 Parallel Interface Specifications (C5450/C5400/C5540) 20
    - 1.5.1.1 Parallel Interface 20
    - 1.5.1.2 Parallel Interface Connector and Cable 20
    - 1.5.1.3 Parallel Interface Level 20
    - 1.5.1.4 Timing Charts 21
    - 1.5.1.5 Parallel I/F Signals 22
  - 1.5.2 Universal Serial Bus (USB) Interface Specifications(C5450/C5400/C5540/ C5250/C5200/C5150/C3200n/C3200/C3100/C5510) 23
    - 1.5.2.1 USB Interface 23
    - 1.5.2.2 USB Interface Connector and Cable 23
    - 1.5.2.3 USB Interface Signals 23
  - 1.5.3 Network Interface Specifications(C5450/C5400/C5250/C5200/C5150/C3200n) . 24
    - 1.5.3.1 Network Interface 24
    - 1.5.3.2 Network Interface Connector and Cable 24
    - 1.5.3.3 Network Interface Signals 24

2. OPERATION DESCRIPTION 25
- 2.1 Electrophotographic Process Mechanism 25
- 2.2 Printing Processes 30

3. PRINTER INSTALLATION 40
- 3.1 Precautions and Prohibition 40
- 3.2 Printer Unpacking Procedure 42
- 3.3 Printer Installation Instructions 44
- 3.4 Packed Units and Attachments 45
- 3.5 Assembly Procedure 46
  - 3.5.1 Printer Main Body 46
  - 3.5.2 Power Cable Connection 51
  - 3.5.3 Installation of Optional Components 54
  - 3.5.4 Checking of Optional-Component Recognition 63
- 3.6 MenuMap Printing 64
- 3.7 Connection Procedures 67
- 3.8 Checking of User Paper 69

4. PARTS REPLACEMENT 70
- 4.1 Precautions in Replacing Parts 70
- 4.2 Part Replacement Procedures 72
  - 4.2.1 Left Side Cover 72
  - 4.2.2 Right Side Cover 74
  - 4.2.3 Face-Up Tray 76
  - 4.2.4 Rear Cover 77
  - 4.2.5 LED Assy / LED Assy-Springs 78
  - 4.2.6 Controller PCB 79
  - 4.2.7 Print Engine Controller PCB 83
  - 4.2.8 Top Cover Assy 88
  - 4.2.9 Top Cover 90
  - 4.2.10 Controller Panel Assy 92
  - 4.2.11 Board-PRP(C5450/C5400/C5540/C5250/C5200/C5150/C3200n)/ Board-PRO(C3200/C3100/C5510) / Top Cover Handle 93

4.2.12 Low-Voltage Power Unit / ID-FAN / Low-Voltage Power Unit FAN / Hopping Motor / Fuser Motor 94
4.2.13 Board-PRT 96
4.2.14 Guide-Eject Assy / Color Registration Assy / Board-PRM 97
4.2.15 FAN (Fuser) / Belt Motor / High Voltage Power Supply Board / Cover Open Switch 99
4.2.16 MPT-Assy 100
4.2.17 Feeder Unit / Board-RSF / MPT Hopping Roller / Frame Assy Separator / Cover-Front 101
4.2.18 Main Motors / Solenoid / Paper-End Sensor 102
4.2.19 Feed Roller 104
4.2.20 Shaft Assy-Eject (FU) / Shaft Assy-Eject (FD) / Eject Sensor 105
4.2.21 Fuser Unit 105
4.2.22 Belt Unit 105
4.3 Parts to lubricate 108

5. MAINTENANCE MENU 125

5.1 System Maintenance Menu(For Maintenance Staff) 125
5.2 Maintenance Utility 128
5.3 Changing the display language 132
5.4 Maintenance Menu Function of the User Menu 133
5.4.1 Maintenance Menu(For End-Users) 133
5.4.2 Self-diagnostic Mode 134
5.4.2.1 Operator panel 134
5.4.2.2 Normal self-diagnostic mode (level 1) 138
5.4.2.2.1 Entering self-diagnostic mode (level 1) 140
5.4.2.2.2 Exiting self-diagnostic mode 140
5.4.2.3 Switch scan test 141
5.4.2.4 Motor and clutch test 144
5.4.2.5 Test printing 146
5.4.2.6 Color registration adjustment test 151
5.4.2.7 Print density adjustment test 151
5.4.2.8 Consumable counter display 152
5.4.2.9 Counter display of numbers of prints and images 152
5.4.2.10 Switching between Factory and Shipping modes 153
5.4.2.11 Self-diagnosis function setting 154
5.4.2.12 Waste toner counter display 155
5.4.2.13 LED head serial number display 155
5.4.2.14 Operator panel display 156
5.4.3 Printing on Controller-Equipped Printer on a Standalone Basis 161
5.4.4 Switch Press Functions at Printer Power-On 162
5.5 Settings after Parts Replacement 163
5.5.1 Instructions to exchange the engine control board 163
5.5.2 EEPROM Setting after ARC Board/SPY Board/SPA Board Replacement 167
5.5.3 Destination Setting [Check Method: Printing demo page (C5450, C5400, C5540), Printing Menu Map (C5250, C5200, C5150, C3200n, C3200, C3100, C5510)] 168
5.6 Settings by Hand for Print Density Adjustment 170

6. REGULAR MAINTENANCE 171

6.1 Parts Replaced Regularly 171
6.2 Cleaning 171
6.3 Cleaning the LED Lens Array 171
6.4 Cleaning the Pick-up Roller and the Pad 173
6.5 Cleaning the Printer Inside 174

7. TROUBLESHOOTING PROCEDURES 176
7.1 Precautions before troubleshooting 176
7.2 Precautions before handling an abnormal image 176
7.3 Precautions upon handling an abnormal image 176
7.4 Preparing for Troubleshooting 176
7.5 Troubleshooting Procedure 176
7.5.1 LCD message list 177
7.5.2 Preparing for troubleshooting 189
7.5.2.(1)LCD Display Malfunction 191
7.5.2.(2)Irregular Operation of the device after turning on the power 194
7.5.2.(3)Paper Feed Jam(Error 391:1st Tray) 204
7.5.2.(4)Paper Feed Jam (Error 390:Multi-purpose Tray) 206
7.5.2.(5)Paper Path Jam(Error 381) 208
7.5.2.(6)Paper Exit Jam(Error 382) 213
7.5.2.(7)Duplex Print Jam(Error 370,371,372,373,383) 216
7.5.2.(8)Paper Size Error (Error 400) 218
7.5.2.(9)ID Unit Up-Down Error(Service Call 140-143) 219
7.5.2.(10)Fuser Unit Error(Error 170-177) 220
7.5.2.(11)Motor Fan Error(Error 120,127,051) 221
7.5.2.(12)Print Speed is Slow (Low Performance) 222
7.5.2.(13)Option unit is not recognized 222
7.5.2.(14)LED head is not recognized(Error 131,132,133,134) 223
7.5.2.(15)Toner cartridge is not recognized(Error 540,541,542,543) 224
7.5.2.(16)Fuse Cutout Error (Error 150-155) 228
7.5.2.(17)Dew Condensation Errors (Error 123) 228
7.5.3 Image Problem Troubleshooting 229
7.5.3.(1)Color is totally pale (Fig.7.2 A) 230
7.5.3.(2)Background is dirty (Fig.7.2 B) 231
7.5.3.(3)Blank Print (Fig.7.2 C) 232
7.5.3.(4)Vertical lines are printed 233
7.5.3.(5)Cyclic Print Trouble (Refer to Fig.7.2 E) 234
7.5.3.(6)Color drift is wide. 235
7.5.3.(7)Solid Black Print 236
7.5.4 Actions Taken after Forced HDD/Flash Initialization 237
7.5.5 Network Troubleshooting 238
7.5.6 Displaying Details of Service Call Error Codes (C3200/C3100/C5510) 239
7.6 Fuse Checking 240
8. CONNECTION DIAGRAM 241
8.1 Resistance Checks 241
8.2 PCB Parts Layouts 245

1. SPECIFICATIONS

1.1 System Configuration

C5450/C5400/C5540

Figure 1-1-1 shows the system configuration of C5450/C5400/C5540.

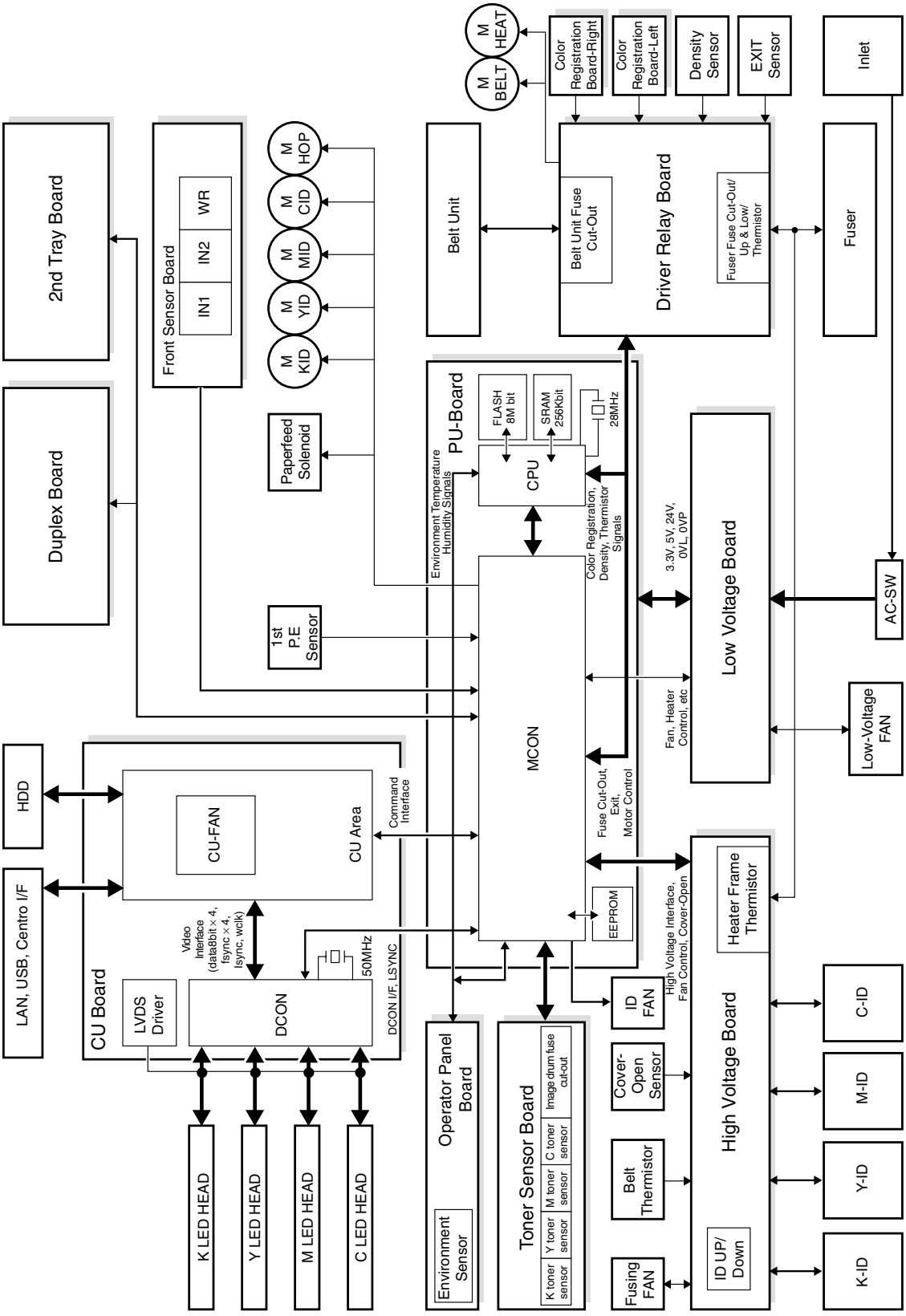


Figure 1-1-1

C5250/C5200/C5150/C3200n

Figure 1-1-2 shows the system configuration of C5250/C5200/C5150/C3200n.

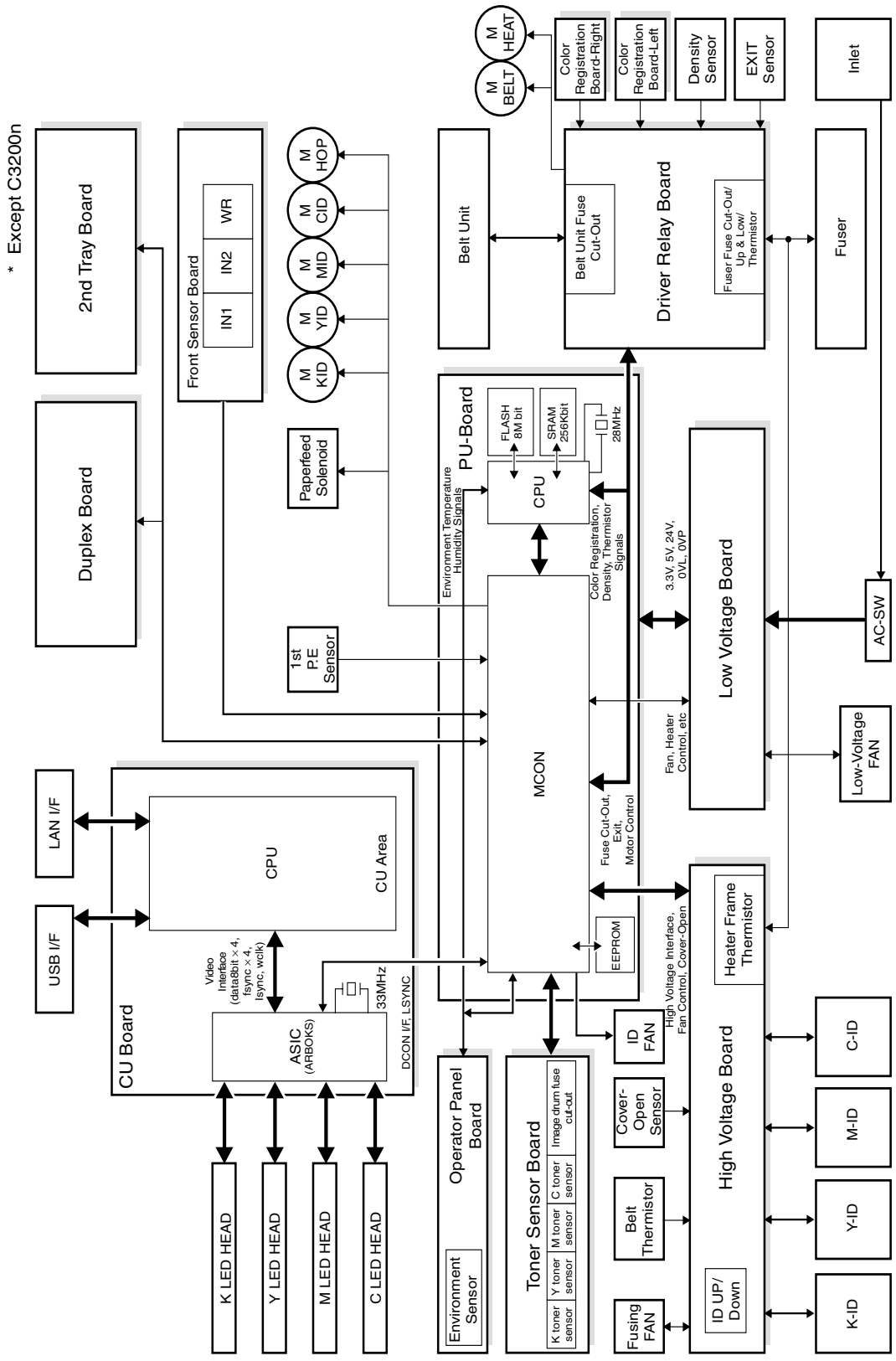


Figure 1-1-2

C3200/C3100/C5510

Figure 1-1-3 shows the system configuration of C3200/C3100/C5510.

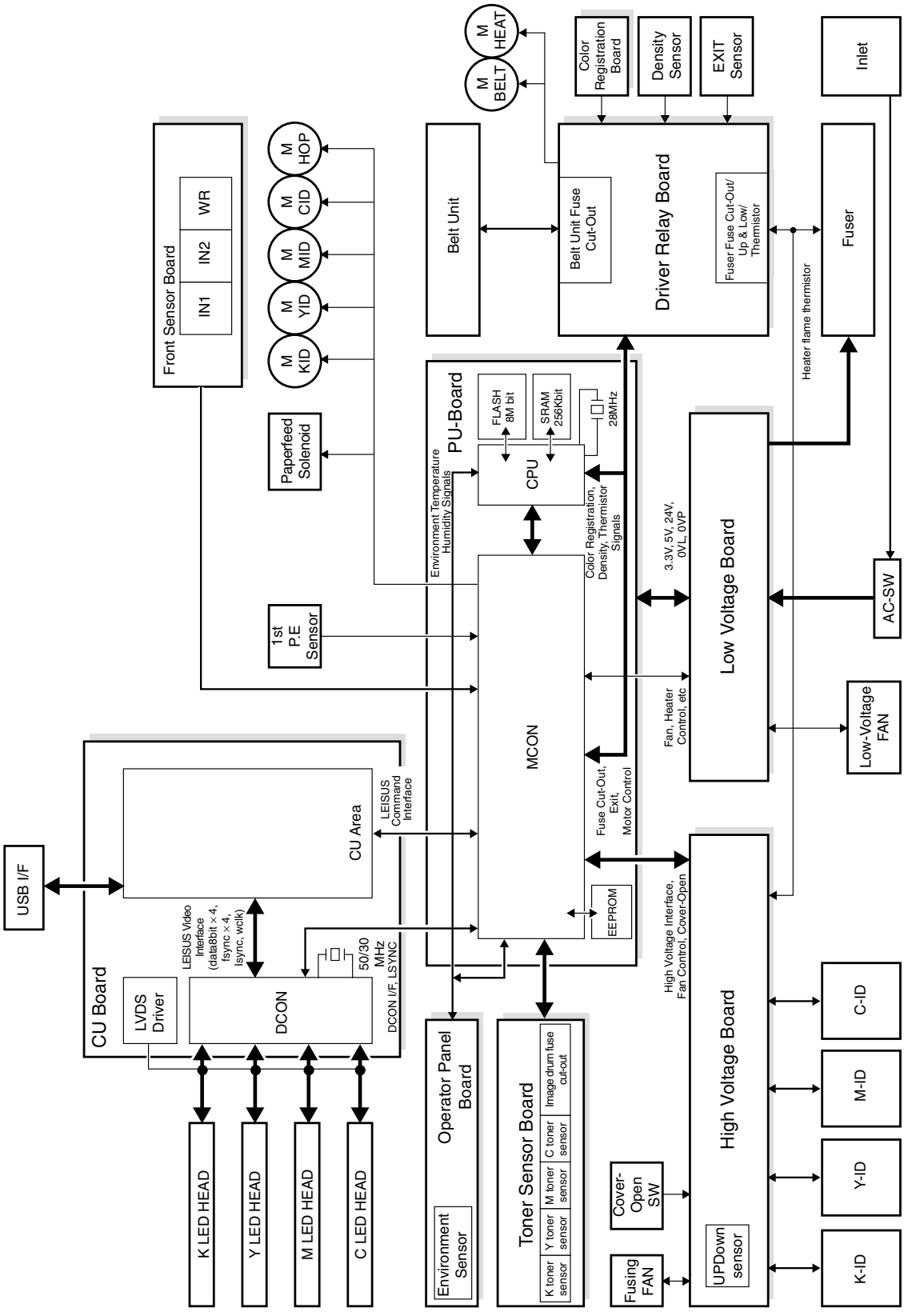


Figure 1-1-3

1.2 Printer Configuration

The inside of C5450/C5400 printers is composed of the following:

- Electrophotographic Processor
- Paper Paths
- Controller Block (CU and PU)
- Operator Panel
- Power Units (High Voltage Unit and Low Voltage Unit)

Figure 1-2-1 shows the configuration of each printer.

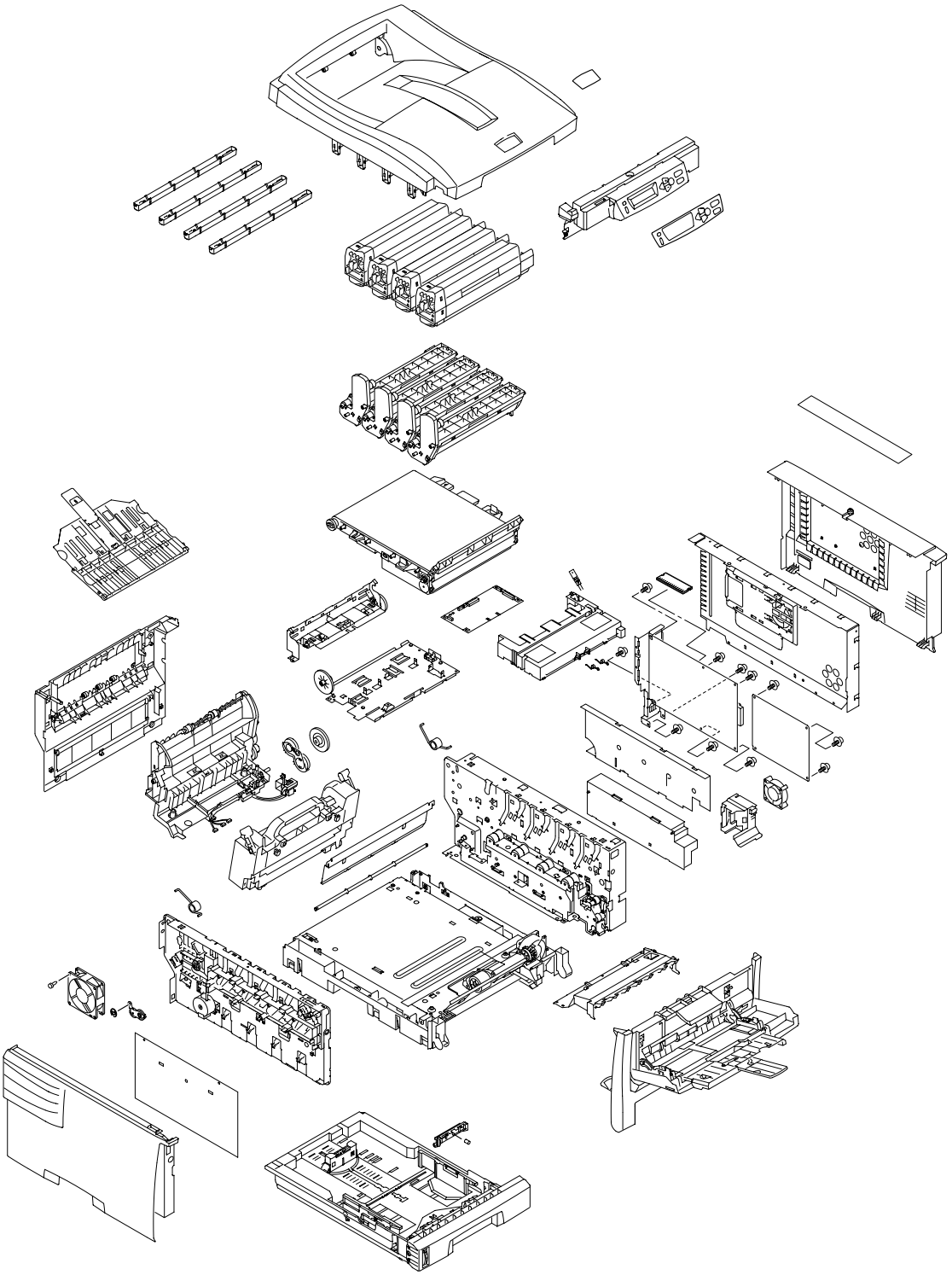


Figure 1-2-1

The inside of C5540 printers is composed of the following:

- Electrophotographic Processor
- Paper Paths
- Controller Block (CU and PU)
- Operator Panel
- Power Units (High Voltage Unit and Low Voltage Unit)

Figure 1-2-2 shows the configuration of each printer.

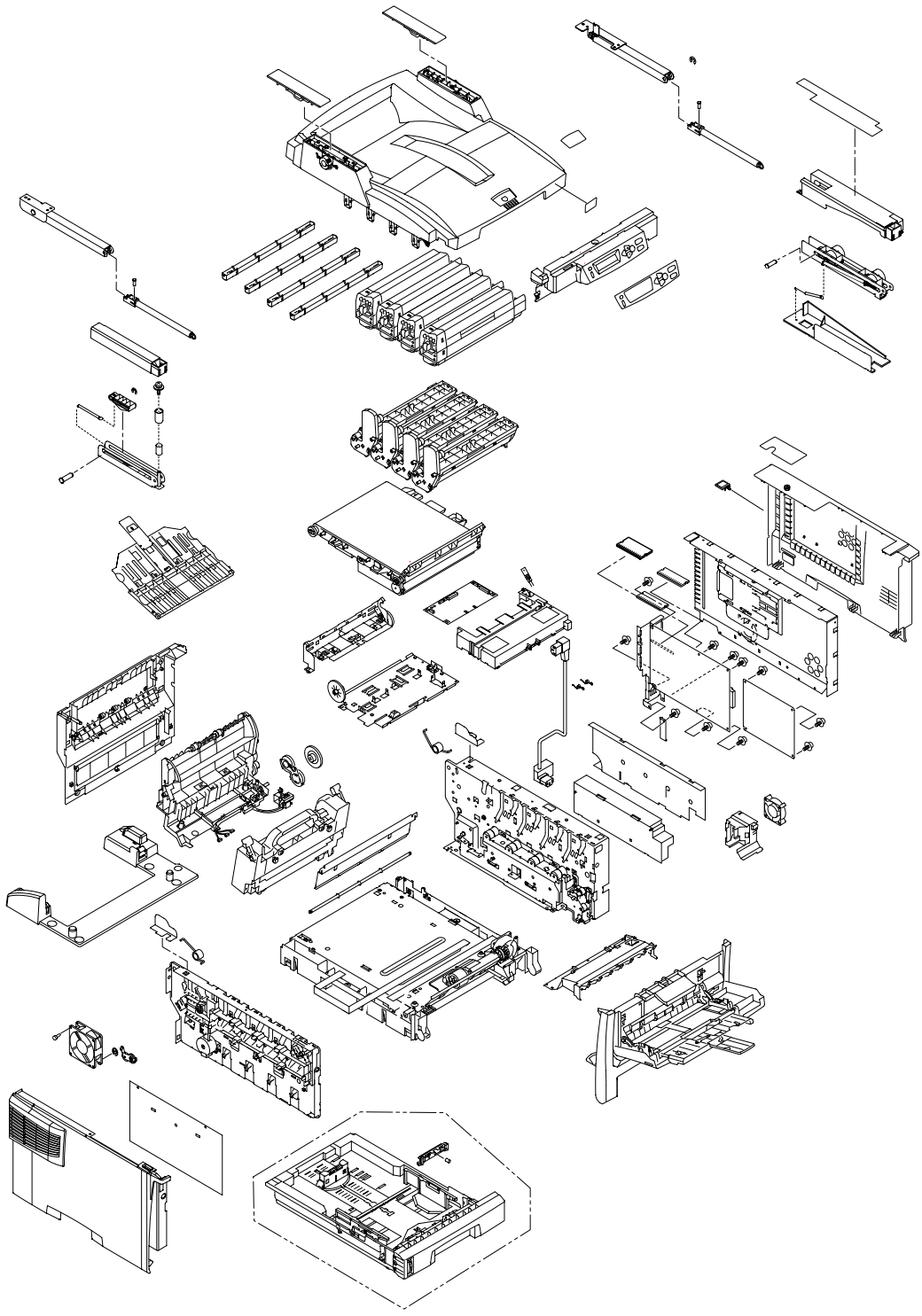


Figure 1-2-2

The inside of C5250/C5200/C5150/C3200n printers is composed of the following:

- Electrophotographic Processor
- Paper Paths
- Controller Block (CU and PU)
- Operator Panel
- Power Units (High Voltage Unit and Low Voltage Unit)

Figure 1-2-3 shows the configuration of each printer.

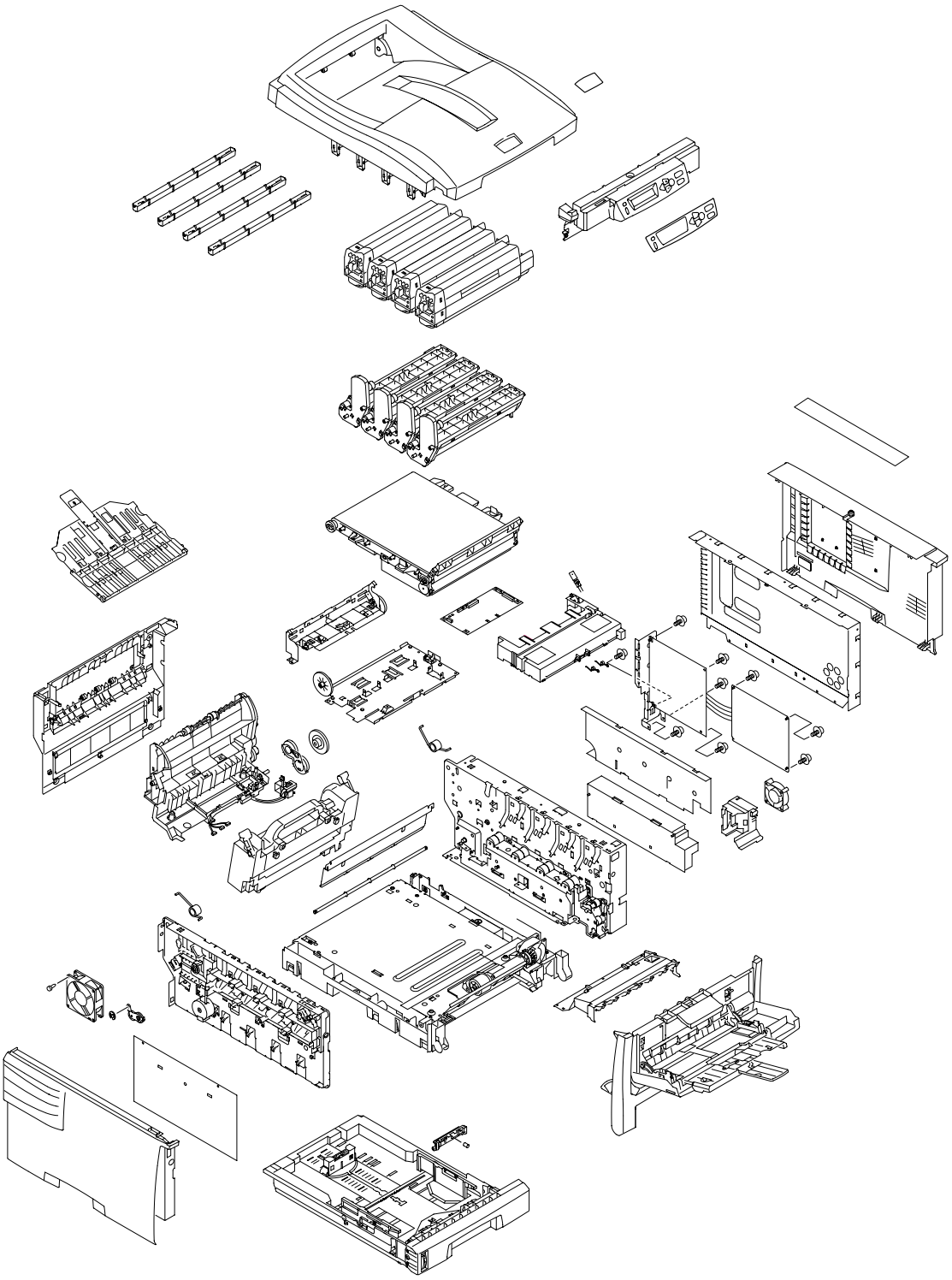


Figure 1-2-3

The inside of C3200/C3100 printers is composed of the following:

- Electrophotographic Processor
- Paper Paths
- Controller Block (CU and PU)
- Operator Panel
- Power Units (High Voltage Unit and Low Voltage Unit)

Figure 1-2-4 shows the configuration of each printer.

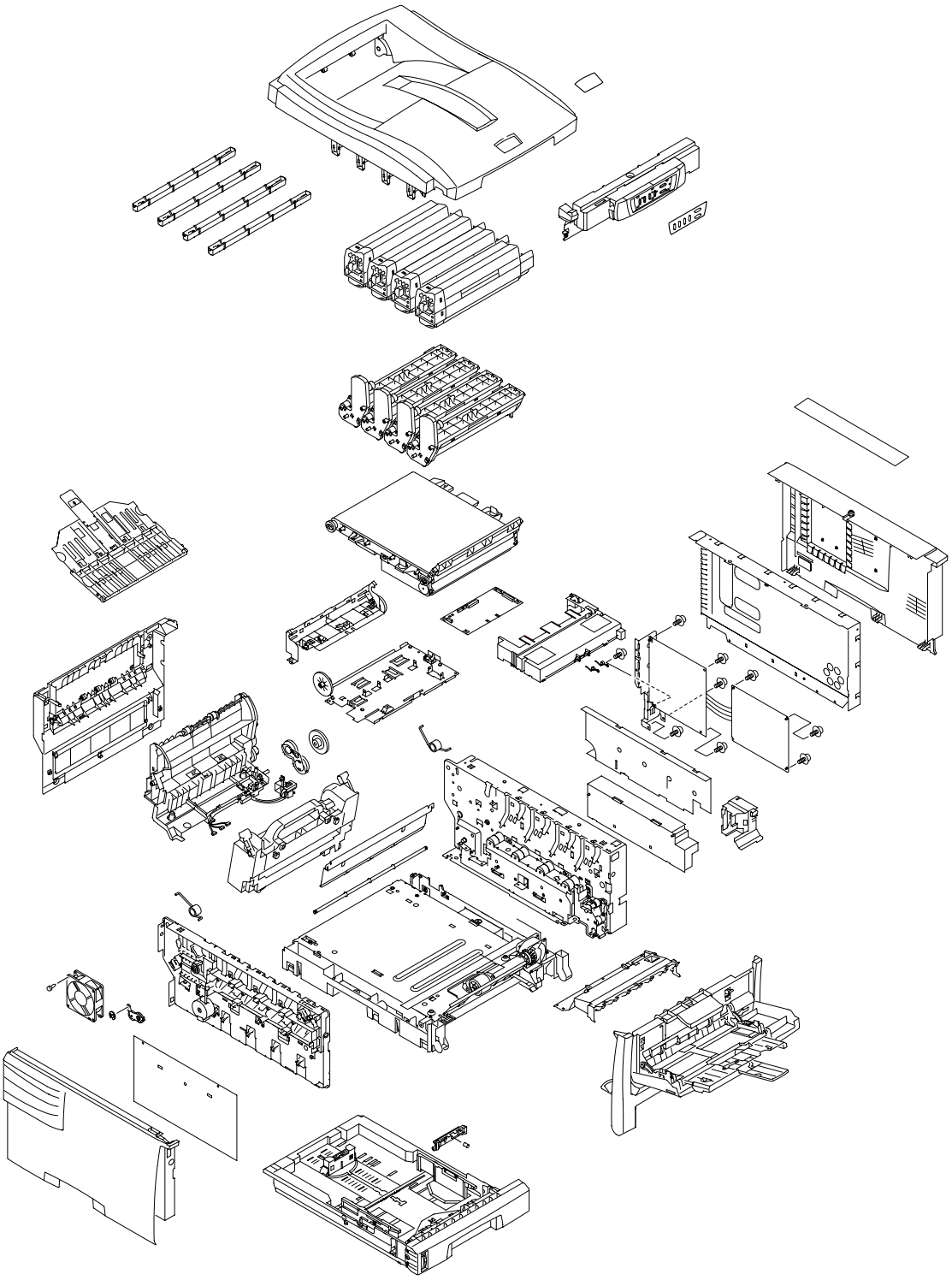


Figure 1-2-4

The inside of C5510 printers is composed of the following:

- Electrophotographic Processor
- Paper Paths
- Controller Block (CU and PU)
- Operator Panel
- Power Units (High Voltage Unit and Low Voltage Unit)

Figure 1-2-5 shows the configuration of each printer.

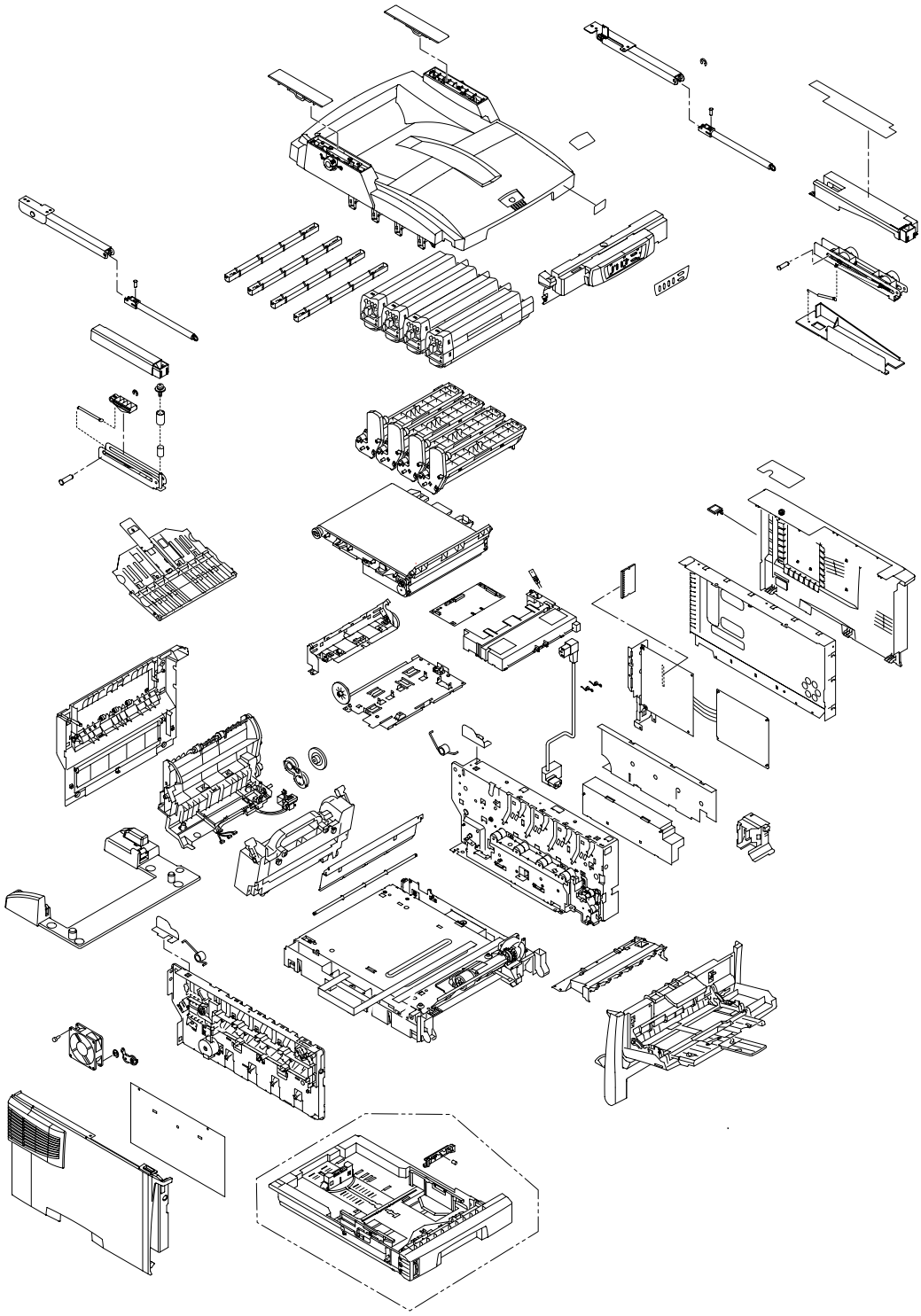
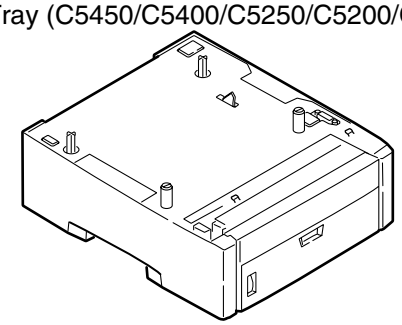


Figure 1-2-5

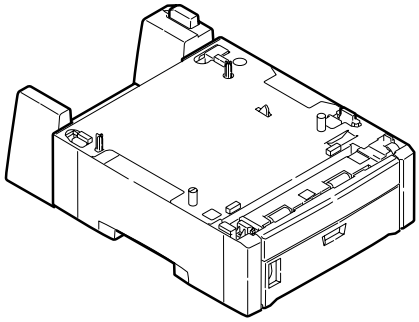
1.3 Option Configuration

The following options are available for C5450/C5400/C5250/C5200/C5150/C5540/C5510.

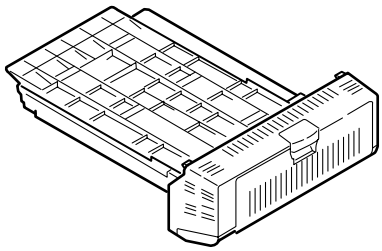
(1) 2nd Tray (C5450/C5400/C5250/C5200/C5150)



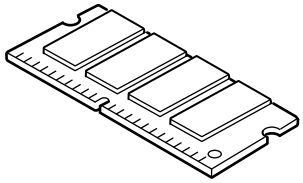
(2) 2nd Tray (C5540)



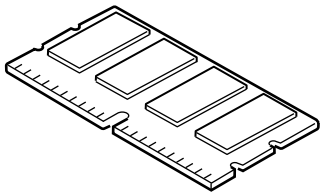
(3) Duplex Unit (C5450/C5400/C5250/C5200/C5150/C3200n/C5540)



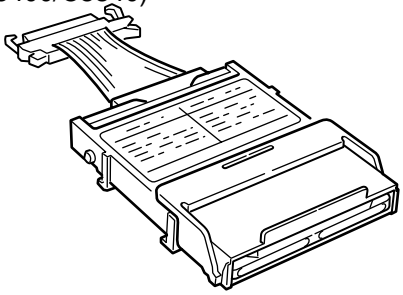
(4) Expansion Memory (C5450/C5400) 64 MB
Recommend to add an optional memory for duplex print, banner print.



(5) Expansion Memory (C5250/C5200/C5150/C3200n/C3200/C3100) 64/256 MB,(C5510) 256MB,(C5540)128MB,256MB Recommend to add an optional memory for duplex print (C5200/C5150), banner print.

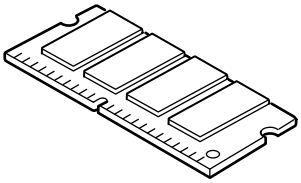


(6) Hard Disk (C5450/C5400/C5540)



(7) Upgrade DIMM (C5400 ODA only)

1.4 Specifications



Category	Item	C3100/C3200	C5510	C3200n	C5150	C5200/C5250	PX725L	C5400/C5450	C5540
Physical Characteristics (1lbs.=453.6g)	Width	16.7" (425mm)							
	Depth	22.1" (561mm)							
	Height	13.6" (345mm)	14" (355mm)	13.6" (345mm)					14" (355mm)
	Weight	approx.55lbs (25kg)	26.4kg	approx.55lbs (25kg)					26.4kg
Print Width	Print Width	A4							
Print speed	Engine speed (A4)	12PPM (Color) 20PPM (Mono) 6PPM (OHP-Color) 12PPM (OHP-Mono)				16PPM (Color) 24PPM (Mono) (Default:20PPM) 6PPM (OHP-Color) 12PPM (OHP-Mono)			
Print start	First print time	9sec(K), 14sec(Color) (A4)				9sec(K), 13sec(Color) (A4)			
	Warm-up time	90sec							
	Quiet mode	N/A							
Resolution	LED head	600dpi							
	Maximum Input dpi	600x1200dpi							
	Output dpi	True 600x1200dpi True 600x600dpi True 300x300dpi					True 600x1200dpi True 600x600dpi		
	Modulation	N/A							
	Econo mode	Toner save by reducing lightness							
CPU	Core	PowerPC405PS					PowerPC750CX		
	I-Cache, D-Cache	16KB,16KB					32KB, 32KB (256KB inside L2)		
	Clock	200MHz					400MHz		
	Bus width	32bit					64bit		
RAM	Resident	32 MB (96MB:C5250)	96MB	32 MB (96MB:C5250)			64 MB (128MB:C5450)		128MB
	Option	64 / 256 MB DIMM	256MB	64 / 256 MB DIMM			64 / 128 / 256 MB DIMM		128/256MB
ROM	Program+Font	2MB (GDI)					16MB (PCL6c)	24MB (PCL6c + PS3)	
Power consumption	Power Input	110~127VAC (Range 99~140VAC) / 220~240VAC (Range 198~264VAC)							
	Power save mode	Less than 16W		Less than 20W			Less than 25W		
	Idle	110W (Ave.), 850W (Max.)		120W (Ave.), 850W (Max.)			130W (Ave.), 850W (Max.)		
	Typical operation	330W		420W					
	Peak	950W							
Usage Environment (Temperature)	In operating	10°C~32°C, 17°C~27°C(Temperature of full color print quality assurance)							
	In non-operating	0°C~43°C, Power OFF							
	In storage (The maximum is one year)	-10°C~43°C, There are drums and toners							
	In transferring (The maximum is one month)	-29°C~50°C, There are drums but no toners							
	In transferring (The maximum is one month)	-29°C~50°C, There are drums and toners							
Usage Environment (Humidity)	In operating	20%~80%, 50%~70%(Humidity of full color print quality assurance) Max wet bulb temperature 25°C							
	In non-operating	10%~90%, Max wet bulb temperature 26.8°C, Power OFF							
	In storage	10%~90%, Max wet bulb temperature 35°C							
	In transferring	10%~90%, Max wet bulb temperature 40°C							

Category	Item	C3100/C3200/C5510	C3200n	C5150	C5200/C5250	PX725L	C5400/C5450/C5540
Life	Printer life	420KP, 5 years					
	Printer duty (M=L/12, A=L/12/5)	Max. 50,000 pages/month Average 4,000 pages/month					
	MTBF (2.3% duty)	N/A					
	MPBF	40,000 pages					
	MTTR	20 minutes					
	Toner life (5% duty)	ODA/OEL/AOS/ODC					
		Starter toner (accessory)					
	ODA	C3100/C5510 1.5KP (K), 1.5KP (C)	1.5KP (K) 1.5KP (C)	1.5KP (K) 1.5KP (C)	C5200 1.5KP (K) 1.5KP (C)	1.5KP (K) 1.5KP (C)	C5400/C5540 1.5KP (K), 1.5KP (C)
	OEL/AOS	C3100/C5510 1.5KP (K), 1.5KP (C) C3200 750P (K), 750P (K)	750P (K) 750P (C)	N/A	1.5KP (K) 1.5KP (C)	N/A	1.5KP (K) 1.5KP (C)
		Standard/High Capacity					
	ODA	C3100/C5510 3KP (K), 3KP (C)	Standard : 1.5KP (K), 1.5KP (C)	Standard : 3KP (K), 3KP (C) High Capa : 5KP (K), 5KP (C)	C5200 Standard : 3KP (K), 3KP (C) High Capa : 5KP (K), 5KP (C)	Standard : 3KP (K), 3KP (C) High Capa : 5KP (K), 5KP (C)	C5400 Standard : 3KP (K), 3KP (C) High Capa : 5KP (K), 5KP (C) C5540 Standard : 5KP (K), 5KP (C)
	OEL/AOS	C3100/C5510 Standard : 3KP (K), 3KP (C) C3200 Standard : 1.5KP (K), 1.5KP (C) High Capa : 3KP (K), 3KP (C)	Standard: 1.5KP (K), 1.5KP (C) High Capa : 3KP (K), 3KP (C)	N/A	Standard : 3KP (K), 3KP (C) High Capa : 5KP (K), 5KP (C)	N/A	C5400/C5450 Standard : 3KP (K), 3KP (C) High Capa : 5KP (K), 5KP (C) C5540 Standard : 5KP (K), 5KP (C)
	Image drum life	15,000 pages (3P/J) 7,500 pages (1P/J) 22,000 pages (continuous) Auto Drum Counter reset					
	Transfer belt life	50,000 pages (A4 size, 3P/J) Counter Auto Reset					
	Fuser life	45,000 pages (A4 size) Counter Auto Reset					
Acoustic noise	Operating	52dBA (ISO 7779 Front) (without option unit)			54dBA (ISO 7779 Front) (without option unit)		
	Standby	37dB (ISO 7779 Front)					
	Power save mode	Background Level					
Paper handling	Input (1st bin)	Legal/Univ cass 300 sheets (80gsm)					
	Input (2nd bin)	No option supported		Legal/Univ cass (opt) 530 sheets (80gsm)			
	Input (Manual/Auto)	Multi purpose tray standard. 50 OHPs or 100 sheets (80gsm) or 10 env.					
	Output	250 sheets (80gsm), face down / 100 Sheets (80gsm) Face Up Tray					
	Duplex	No option supported	Option				
Paper size	Legal/Universal or A4/Universal cassette	1st cassette : Legal13/13.5/14,Letter,Exective,A4,A5,B5,A6 2nd cassette : Legal13/13.5/14,Letter,Exective,A4,A5,B5					
	Auto front feeder or manual feeder	(Multi Purpose Tray) Legal13,Legal13.5,Legal14,Letter,Exective,A4,A5,B5,A6,C5,DL,Com-9, Com-10,Monarch,CustomSize,Banner upto 1200mm (If the length exceeds 356, the width has to be within 210~215.9)					
	Duplex	N/A	Legal13/13.5/14,Letter,Exective,A4,B5,A5 Custom Size (within size and weight limits)				
Minimum paper size	1st bin	4.1"x5.8"(105x148mm:A6)					
	2nd bin	N/A		5.8"x8.3" (148x210mm:A5)			
	Manual or Auto	4.1"x5.8" (105x148mm:A6)					
	Duplex	N/A	5.8"x8.3" (148x210mm:A5)				

Category	Item	C3100/C3200/C5510	C3200n	C5150	C5200/C5250	PX725L	C5400/C5450	C5540
Paper weight	1st bin	17~32lb. (64~120gsm)						
	2nd/3rd bin	N/A		17~47lb. (64~176gsm)				
	Manual or Auto	20~53lb. (75~203gsm) OHP Available						
	Duplex	Over sea : 20~28lb. (75~105gsm)						
Operator panel	LCD	N/A	16ch, 2line (Roman/Kana) No Paper size indicator					
	LED (Color)	4 (Greenx1, Dark Amberx3)	2 (Greenx1, Dark Amberx1)					
	Switch	2	6					
Status switch, Sensor	Paper end	Available						
	Paper low	N/A						
	Toner low	Available (Y,M,C,K)						
	Cover open	Available						
	Fuser temperature	Available						
	Paper size	N/A						
	Stacker full	N/A						
Communication interface	Standard (On board)	• USB (2.0)	• USB (2.0) • Ethernet			• USB (2.0) • IEEE-1284 Parallel	• USB (2.0) • Ethernet • IEEE-1284 Parallel	• USB (2.0) •IEEE-1284 Parallel
	Options (Removable)	N/A	N/A			PS & NIC upgradable DIMM (Option)	N/A	
	I/O switch	Auto						
Emulation	Standard	GDI Hiper-C				PCL (PCL5c, HP-GL) / PCL XL2.1 SIDM (IBM-PPR, EPSON-FX)	PCL (PCL5c, HP-GL) / PCL XL2.1 SIDM (IBM-PPR, EPSON-FX) PostScript3 (Clone)	
	Options (Removable)	N/A				PS option (DIMM option available)	N/A	
	Emulation switch	N/A				N/A	Auto	
Font	Bitmap Typeface	N/A				Agfa 1(line printer)		
	Scalable 1 Typeface	N/A				Agfa MicroType 86		
	Scalable 2 Typeface	N/A				N/A	N/A	
	Scalable 3 Typeface	N/A				N/A	Agfa MicroType 136	
	Rasterizer	N/A				Agfa UFST 4.0 (PCL)		
	Barcode	N/A				USPS		
	OCR	N/A				OCR-A,B		
	Japanese PCL Fonts	N/A				N/A		
	Japanese PS Fonts	N/A				N/A		

Category	Item	C3100/C3200/C5510	C3200n	C5150	C5200/C5250	PX725L	C5400/C5450/C5540
Slot or Socket (Flash SIMM)	Slot	N/A					
	Socket	No slot/socket for Flash					
	Resident Flash Mem	512KB Flash ROM	2MB Flash ROM			4MB Flash ROM	
Option (Removable)	RAM set	64, 256 MB				64, 128, 256 MB	
	Interface	N/A	N/A			Ethernet (soft NIC) upgradable with DIMM exchage and take off connector cover	N/A
	Tray mechanism	No 2nd tray available	2nd tray mecha				
	Cassette	N/A	Legal/Univ (530)				
	Duplex	Not available	Available				
	Other	N/A				2.5" IDE HDD User installable	
Shipping Configuration	ODA	GDI model				PCL model	PCL+PS model PCL+PS model
	OEL	GDI model				-	PCL+PS model
	INTER	GDI model				-	
	OEM						
Product name	ODA	-	C5150n/C3200n		C5200n/ne	C5400	C5400n
	OEL	C3100/C3200/C5510	C3200n		C5200n/C5250	-	C5400n/C5450/C5540
	AOS	C3100/C3200/C5510	C3200n		C5200n/C5250	-	C5400n/C5450/C5540
Other	USB-IF Logo	YES					
	Windows Logo	YES					
	Operation in UPS	An operation in UPS(the uninterruptible power source) is not assured. Do not use UPS.					

Note! There is no compatibility among C5200/C5150/C3100/C3200 expansion memory and C5400 expansion memory.

1.5 INTERFACE SPECIFICATIONS

1.5.1 Parallel Interface Specifications (C5450/C5400/C5540)

1.5.1.1 Parallel Interface

Item	Description
Mode	Compatibility mode, Nibble mode, ECP mode
Data bit length	8 bits: Compatibility mode, 4bits: Nibble mode,9 bits: ECP mode

1.5.1.2 Parallel Interface Connector and Cable

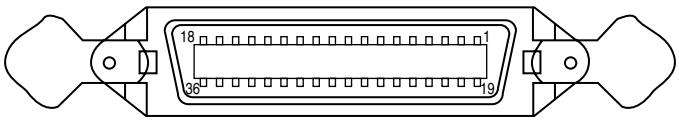
1) Connector

Printer side: 36-pin receptacle

Type 57LE-40360-12 (D56) (made by Daiichi Denshi) or equivalent

Cable side: 36-pin plug

Type 57FE-30360-20N (D8) (made by Daiichi Denshi) or equivalent



Connector Pin Arrangement Viewed from Cable Side

2) Cable

Cable length: 1.8 m max.

(A shielded cable composed of twisted pair wires is recommended for noise prevention.)

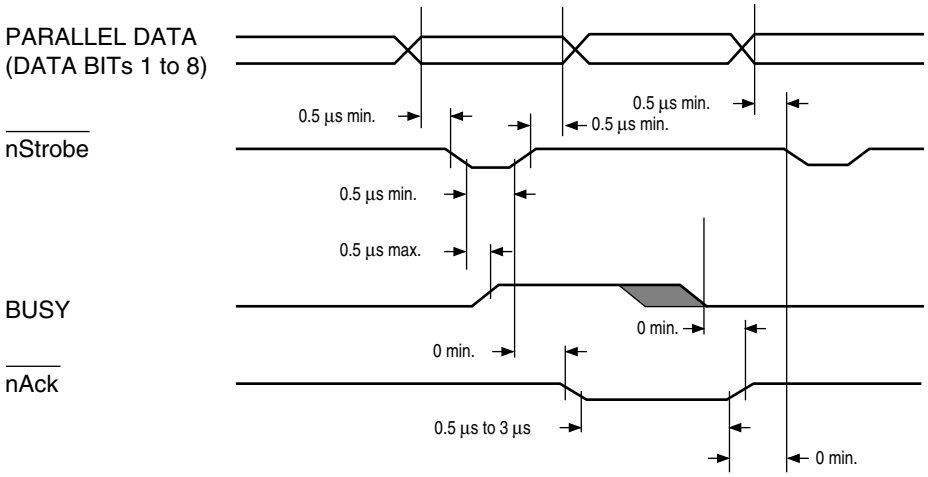
1.5.1.3 Parallel Interface Level

LOW: 0 V to +0.8 V
HIGH: +2.4 V to 5.0 V

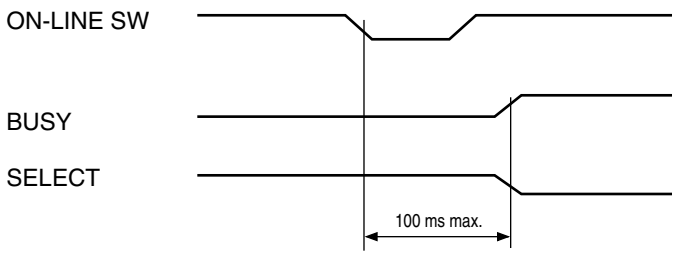
1.5.1.4 Timing Charts

Compatible mode

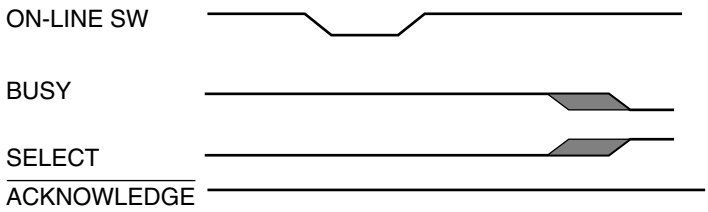
a) Data receiving timing



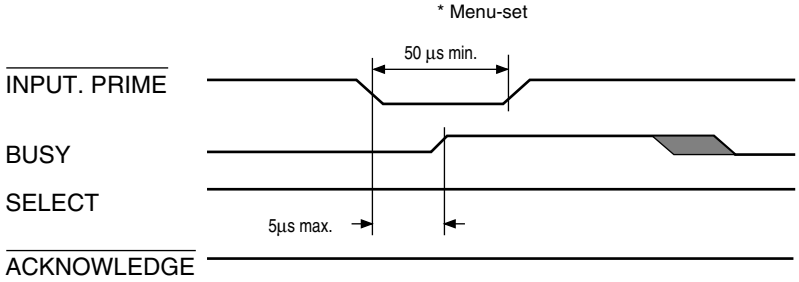
b) On-line (off-line switching timing by ON-LINE SW)



c) Off-line (on-line switching timing by ON-LINE SW)



d) nInit timing (invalid by default)



1.5.1.5 Parallel I/F Signals

Table 1-1 shows interface signal names and pin numbers.

Table 1-1 Signals

Pin No.	Signal Name	Signal Direction	Functions
1	Nstrobe (HostClk)	→PR	Pulse for reading data in at trailing edge.
2	DATA 1	→PR	8-bit parallel data. Each signal is HIGH when data is logical 1 and LOW when it is logical 0.
3	DATA 2		
4	DATA 3		
5	DATA 4		
6	DATA 5		
7	DATA 6		
8	DATA 7		
9	DATA 8		
10	nAck (PtrClk)	←PR	Indicates the completion of data reception.
11	Busy (PtrBusy)	←PR	Indicates whether the printer is ready for receiving data. Data cannot be received while the signal is HIGH.
12	PError (AckDataReq)	←PR	Indicates paper error when held HIGH.
13	Select (Xflag)	←PR	HIGH without exception when the parallel interface is enabled.
14	NAutoFd (HostBusy)	→PR	Used in bidirectional communication.
15	-	-	Unassigned.
16	GND	-	Signal ground.
17	FG	-	Chassis ground.
18	+5V	←PR	Used for supplying +5V. Power cannot be supplied to the outside of the printer.
19 ~ 30	GND	-	Signal ground.
31	Nlnit (nlnit)	→PR	Initializes the printer when held LOW.
32	NFault (nDataAvail)	←PR	LOW during alarm.
33	GND	-	Signal ground.
34	-	-	Unassigned.
35	HILEVEL	←PR	Pulled up to +5V at 3.3KΩ inside the printer.
36	Nselectin (IEEE 1284 active)	→PR	Used in bidirectional communication. Low without exception in compatible mode.

Note: Parenthesized signal names are used in nibble mode.
Only functions in compatible mode are listed.
This printer supports the IEEE std 1284-1994 nibble mode. Note that, when used with personal computers or cables that do not comply with the standards, the printers may exhibit unpredictable behavior.

1.5.2 Universal Serial Bus (USB) Interface Specifications(C5450/C5400/C5540/C5250/ C5200/C5150/C3200n/C3200/C3100/C5510)

1.5.2.1 USB Interface

(1) Basic specifications

Conforms to USB specification, revision 2.0.

(2) Transmission mode

Full speed (max. 12 Mbps) / High speed (max. 480 Mbps)

(3) Power Control

Self-power device

1.5.2.2 USB Interface Connector and Cable

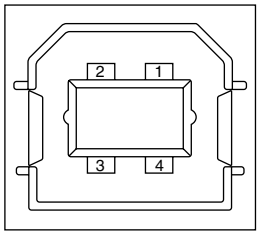
(1) Connector

Printer side: Type B receptacle

Upstrem port

DUSB-BRA42-T11 (D2) (made by DDK) or equivalent

Connector pin layout



Cable side: Type B plug

(2) Cable

Cable length: 5 m max. (cable compliant with USB specification, revision 2.0)
(A shielded cable must be used.)

1.5.2.3 USB Interface Signals

		Function
1	Vbus	Power Supply (+5V) (red)
2	D -	Data transmission (white)
3	D +	Data transmission (green)
4	GND	Signal ground (black)
Shell	Shield	

1.5.3 Network Interface Specifications(C5450/C5400/C5250/C5200/C5150/C3200n)

1.5.3.1 Network Interface

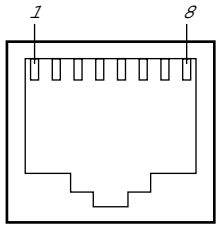
(1) Basic specifications
Network protocol
TCP/IPSpecification

Network layer
ARP, RARP, IP, ICMP
Transport layer
TCP, UDP
Application layer
LPR, FTP, TELNET, HTTP, BOOTP, SMTP

1.5.3.2 Network Interface Connector and Cable

(1) Connector
100 BASE-TX / 10 BASE-T

Connector pin layout



(2) Cable
RJ-45 UTP cable with connector (Category 5 recommended)

1.5.3.3 Network Interface Signals

Pin No.	Signals	Signal Direction	Functions
1	TXD+	FROM PRINTER	Send Data +
2	TXD-	FROM PRINTER	Send Data -
3	RXD+	TO PRINTER	Received Data +
4	-	-	Unassigned
5	-	-	Unassigned
6	RXD-	TO PRINTER	Received Data -
7	-	-	Unassigned
8	-	-	Unassigned

2. Operation Description

2.1 Electrophotographic Process Mechanism

(1) Electrophotographic Process
Following describes the outline of an electrophotographic process incorporated into printers.

1. Charging
   Applying a voltage to a charging (CH) roller charges the surface of an optical photoconductive (OPC) drum.

2. Exposure
   The surface of the drum having a charge is exposed to light an LED head emits under each image signal. Segments of the surface have a reduced charge according to the intensities of the light they receive, a static latent image being created on the surface based on electrical potentials on the surface

3. Development
   Charged toner is attracted to the latent image of the drum by static electricity and makes the image visible on the surface of the drum.

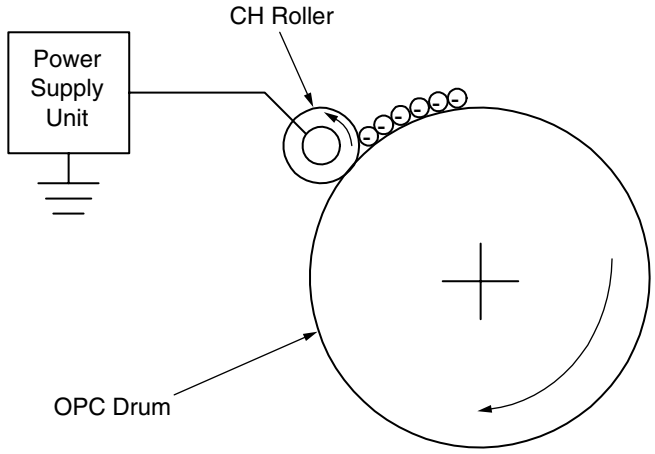
4. Transfer
   Paper is brought into contact with the drum, and applied with a charge by a transfer roller from the back, the toner image being transferred to the paper.

5. OPC Drum Cleaning
   A drum cleaning blade removes residual toner from the drum after the transfer.

6. Transfer Belt Cleaning
   A belt cleaning blade removes residual toner from a transfer belt.

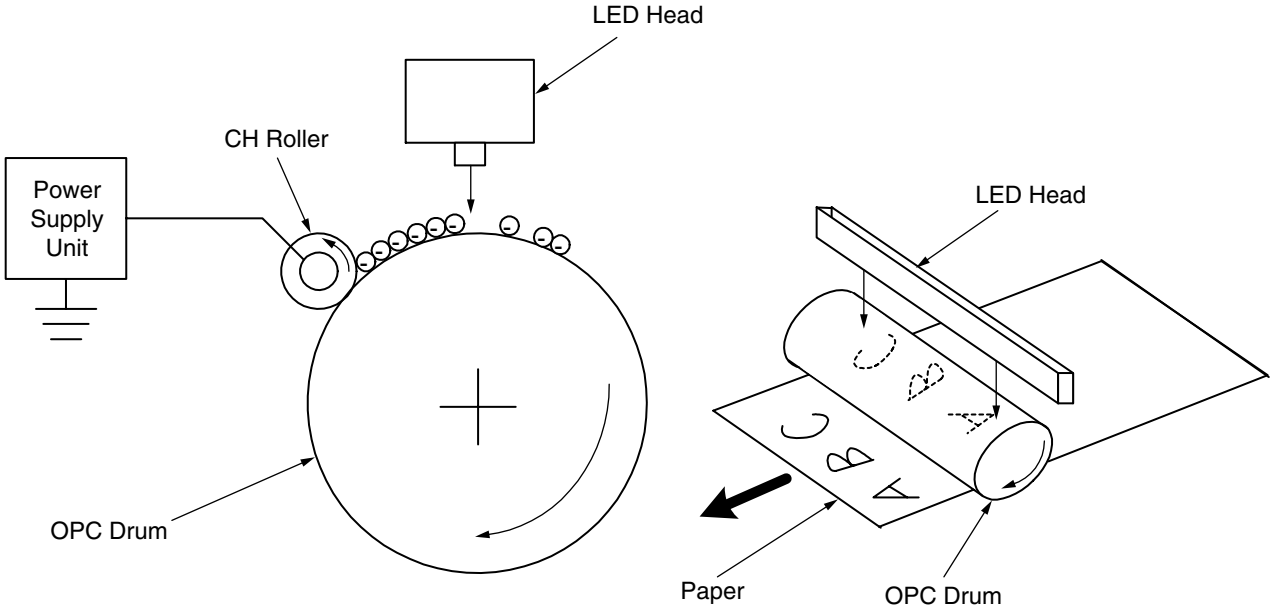
7. Fusing
   Heat and pressure fuses the toner image to the paper.

(2) Charging
Voltage is applied to a CH roller contacting the surface of an OPC drum, depositing a charge over the surface.



(3) Exposure

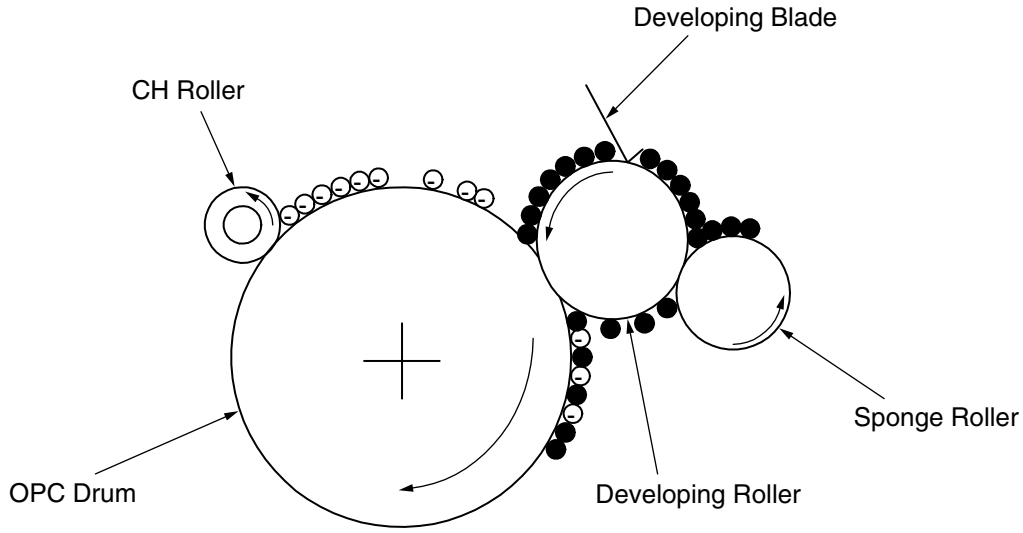
The surface of the charged drum is exposed to light emitted from an LED head. Charges of segments of the surface are reduced according to the intensities of the light the segments receive, a static latent image being created on the surface.



(4) Development

Toner is attracted to the latent image on the surface of the drum, making the image a toner image.

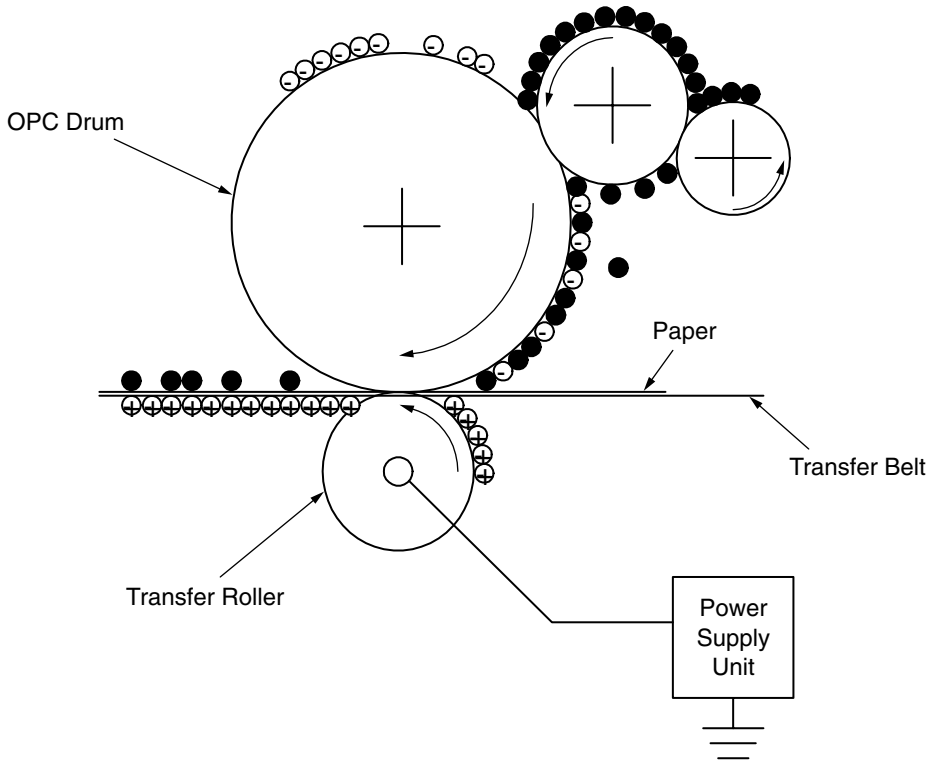
1. The sponge roller supplies toner onto the developing roller.



2. The latent image on the surface of the drum is made visible by the toner.

(5) Transfer

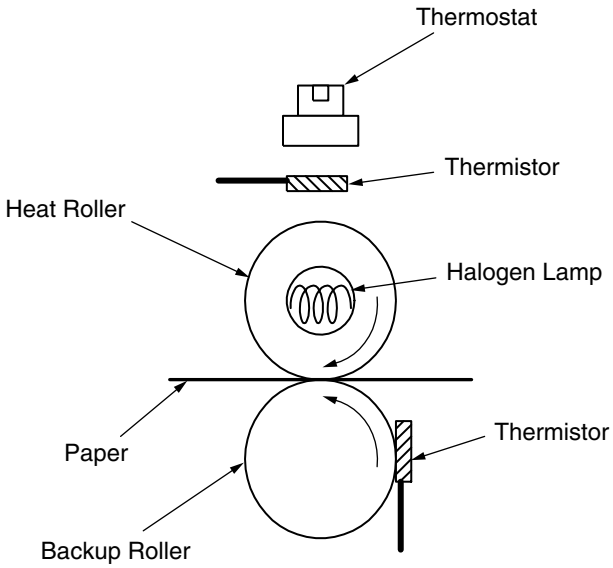
The paper made contact with the surface is applied with a charge by the roller from the back. Applying high voltage provided by a power supply to the roller transfers the roller-induced charge to the surface of the paper at the contact between the roller and the paper, attracting the charged toner from the surface of the drum to the surface of the paper.



(6) Fusing

When passing between a heat roller and a backup roller, the toner image transferred to the paper is fused into place with heat and pressure.

A safety thermostat is provided and, when the temperature of the heat roller rises to or exceeds a predetermined temperature, it opens, cutting off voltage supply to the heater.

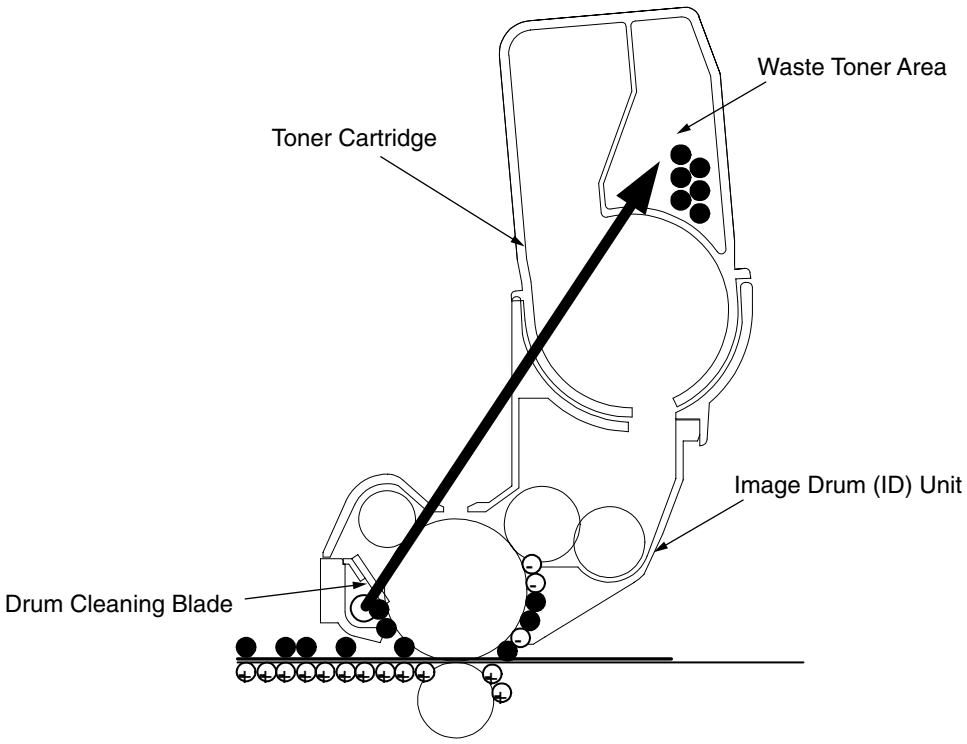


Fusing Temperature Settings

Media Weight	Paper Type Settings	Temperature Settings
Light	Light	Warm
↓	Medium	High
	Heavy	Warm
	U.Heavy	Low
Heavy	OHP	Low

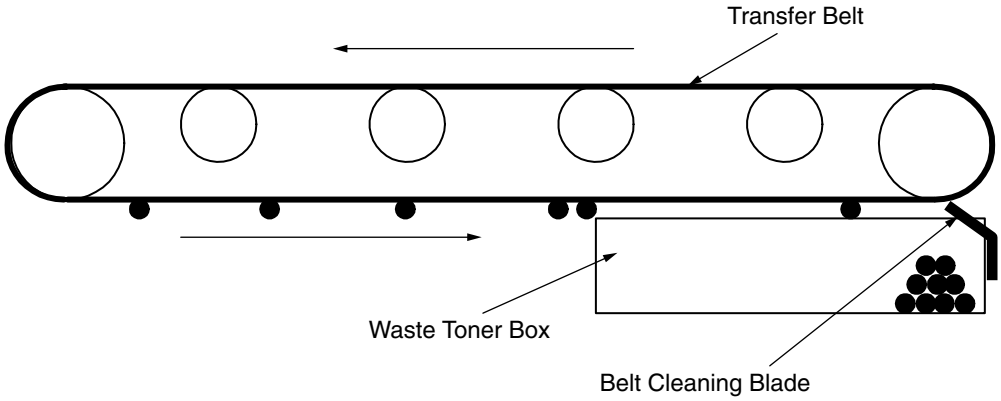
(7) OPC Drum Cleaning

Unfused, residual toner on the drum is scraped off with a drum cleaning blade, and collected in the waste toner area of a toner cartridge.



(8) Transfer Belt Cleaning

Residual toner on a transfer belt is scraped off with a belt cleaning blade, and collected in the waste toner box of a transfer belt unit.

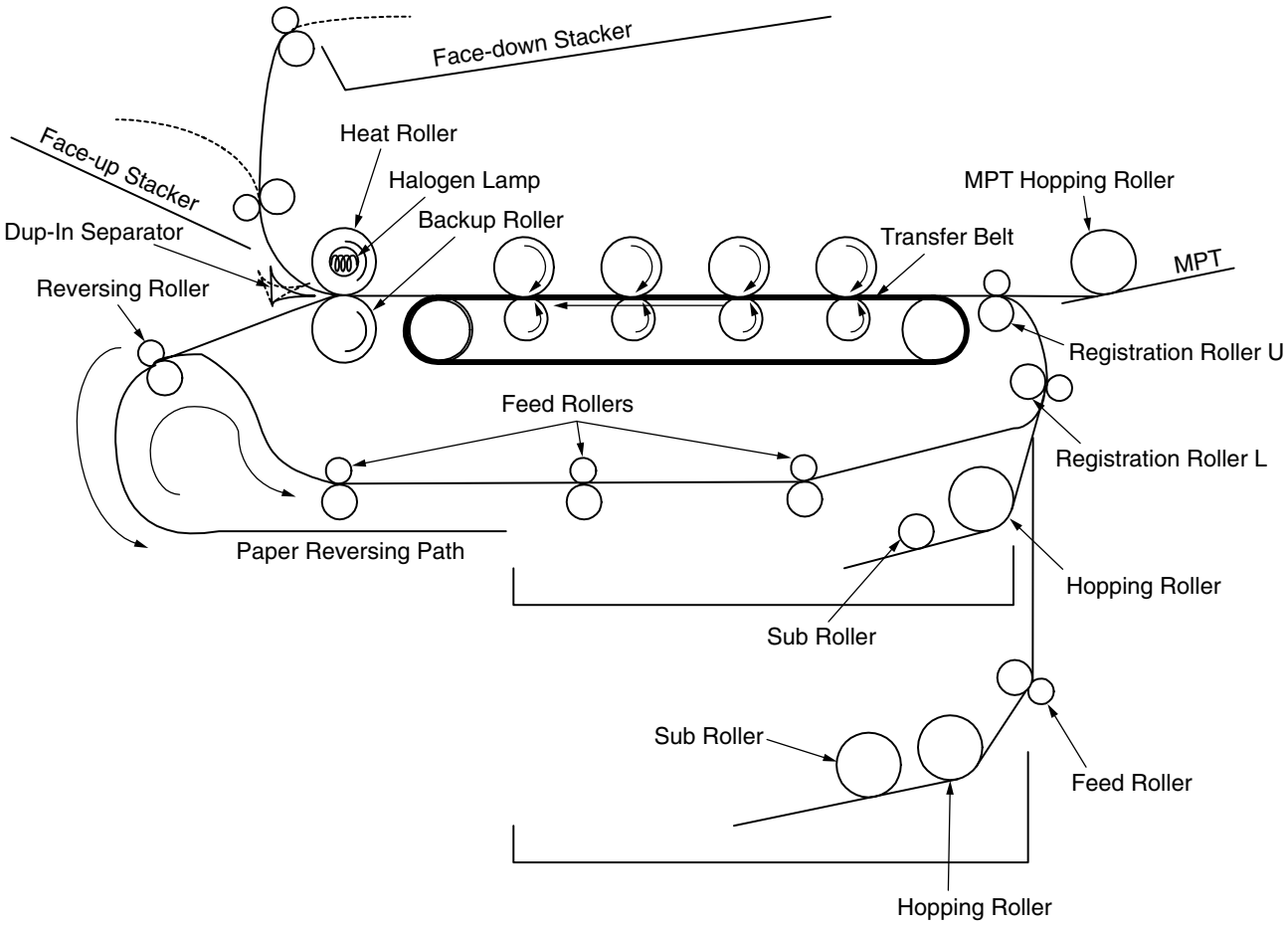


2.2 Printing Processes

Paper fed from a tray 1 or 2 is forwarded by Hopping roller, Registration Roller L and Feed roller. When feeding paper from a multiple tray, it is forwarded by a MPT Hopping roller and Registration Roller U. Then, the paper is moved onto a transfer belt and, through K, Y, M and C electrophotographic processes performed taking their turns, a yet-to-be-fused toner image is produced on the paper. While the paper passes through a fuser unit, heat and pressure fuses the toner to the paper. After the fusing process, the paper is ejected to a face-up or face-down stacker, whichever is selected according to whether the face-up stacker is opened.

These operations are performed in single-side printing. Following are operations in two-side (duplex) printing.

In duplex printing, paper passed through a fuser unit after it is first printed on the back is fed into a duplex unit via a dup-in separator. Reversing roller's reversing operation sends the paper via a paper reversing path into the duplex unit. After Feed rollers on a paper path in the duplex unit pass the paper through the unit, the paper is fed via a paper feeding path routed from the unit. Then, the paper is forwarded to the same route from the tray. After that, the same operation as that performed after the paper moving by the first registration roller L in single-side printing using tray feeding is performed.



(1) Paper Feed from 1st Tray

1. As indicated in Figure 2-1, when the solenoid is ON, the registration motor rotates (CCW), and transports the paper until IN1 sensor turns ON. (The hopping roller rotates when the solenoid is ON.)

2. When IN1 sensor is ON, a constant number of sheets are transported against registration roller L. (This corrects paper skewing.)

3. As indicated in Figure 2-2, the solenoid is turned OFF and paper is fed with registration roller L. (The registration roller L feeds the paper when the solenoid is OFF.)

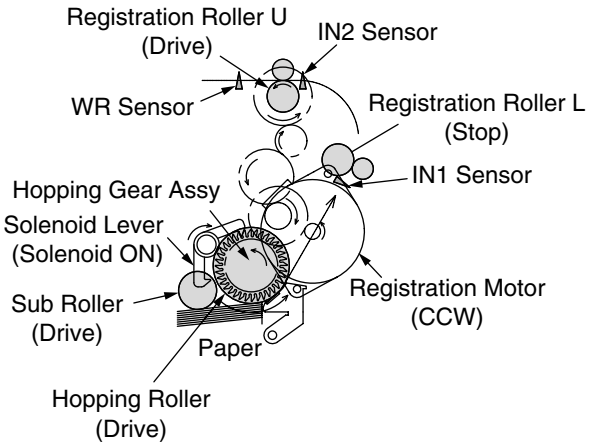


Figure 2-1

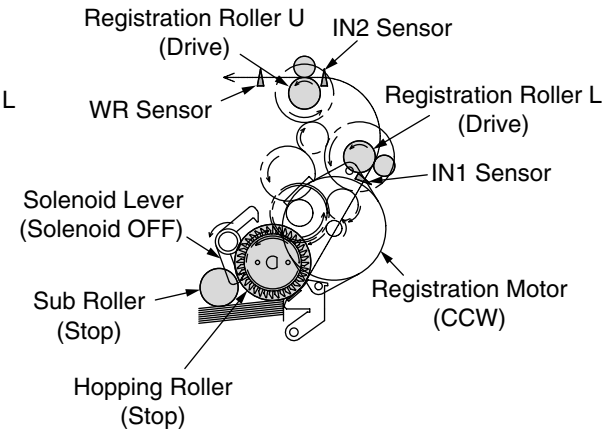


Figure 2-2

(2) Paper Feed from MPT

1. As indicated in Figure 2-3, when the solenoid is OFF, the registration motor rotates (CW) and continues to transport paper until IN2 sensor turns ON. (The MPT hopping roller drives the paper until the registration motor rotates in the CW direction.)

2. When IN2 sensor is turned ON, a constant number of sheets are transported against registration roller U. (This corrects paper skewing.)

3. As indicated in Figure 2-4, the registration motor rotates (CCW), and transports the paper with registration roller U. (The registration roller U feeds the paper when the registration motor rotates in the CCW direction.)

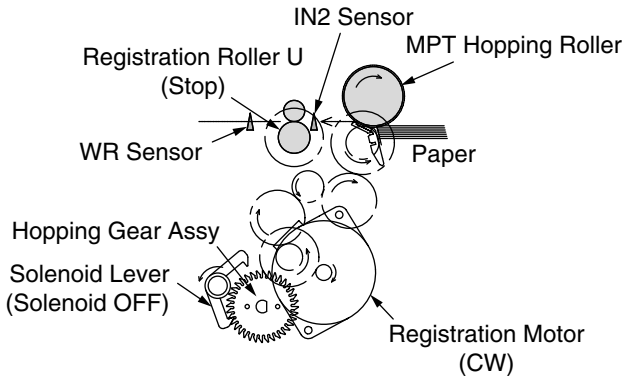


Figure 2-3

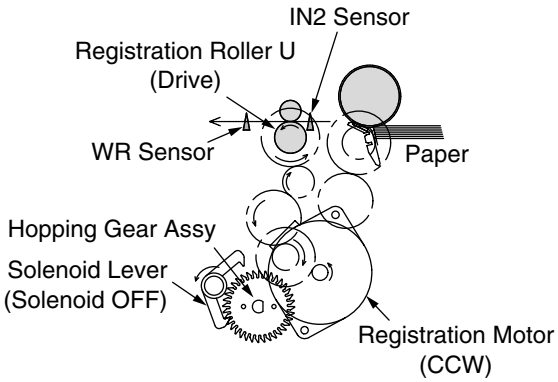


Figure 2-4

(3) Carrier Belt

1. The running of the carrier belt motor in the direction of the arrow drives the carrier belt. The belt unit sits with one carrier roller immediately below each color's drum, and the carrier belt between them. By the application of a fixed voltage, the carrier belt and carrier roller feed paper on the carrier belt into the fuser unit, transferring a toner image on each color's drum.

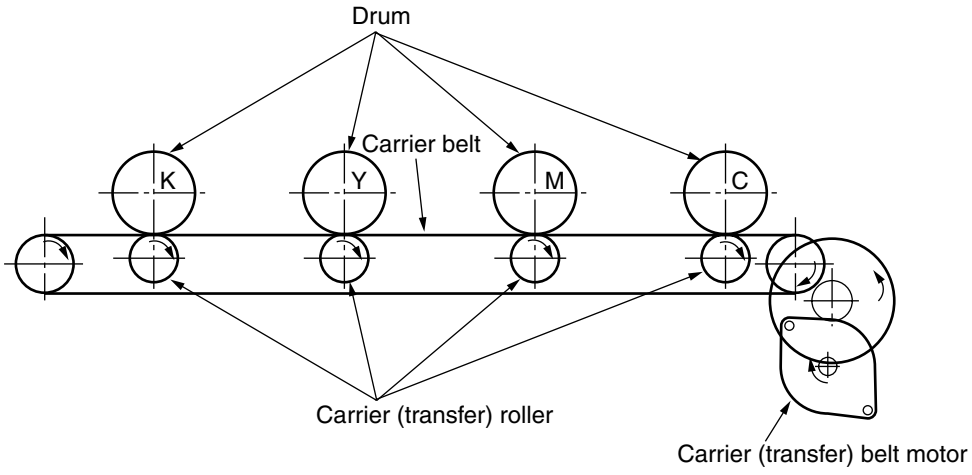


Figure 2-5

(4) ID Unit Up/Down Operations

1. The C-ID motor drives the ID unit up and down.

2. Figure 2-6 indicates ID unit operations during color printing. When the C-ID motor rotates (CCW), the lift uplink slides to the left, and as indicated in Figure 2-6, each ID unit moves DOWN. The printer is now ready for color printing.

3. Figure 2-7 indicates the ID unit operations during monochrome printing. When the C-ID motor rotates (CW), the lift uplink slides to the right, and as indicated in Figure 2-7, all units other than the K-ID moves UP. The printer is now ready for black-and-white printing.

ID Unit Operations During Color Printing

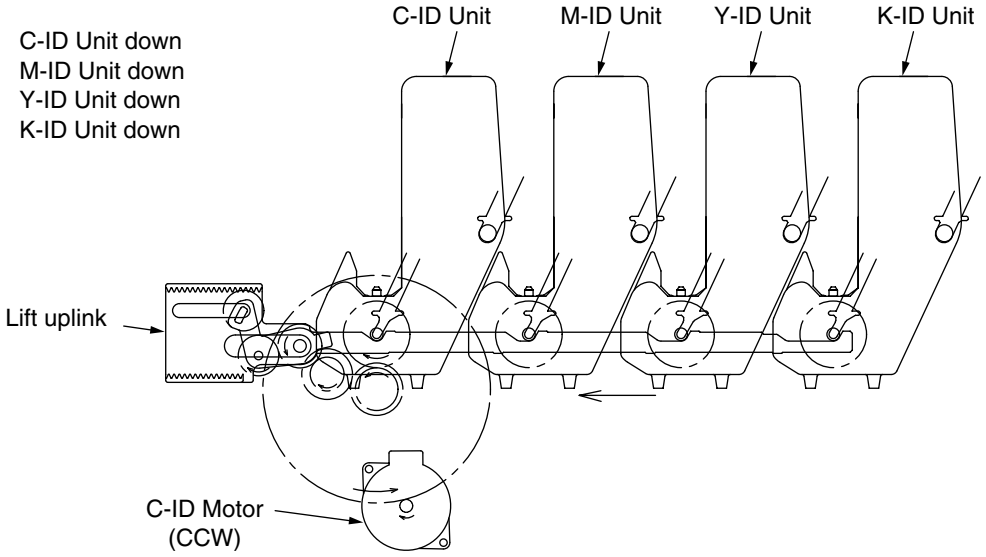


Figure 2-6

ID Unit Operations During Monochrome Printing

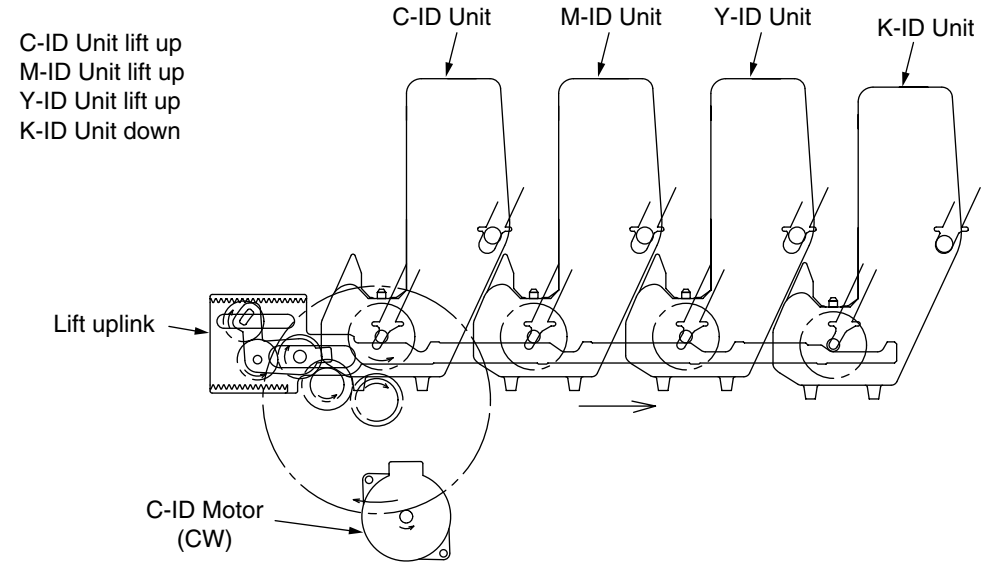


Figure 2-7

(5) Fuser Unit and Paper Expeller

1. As indicated in Figure 2-8, a single pulse motor drives the fuser unit and expeller roller. The heat drum turns when the fuser motor turns (CCW). This drum transfers the toner image on the paper by high temperature and pressure.

2. At the same time, the expeller roller expels the paper.

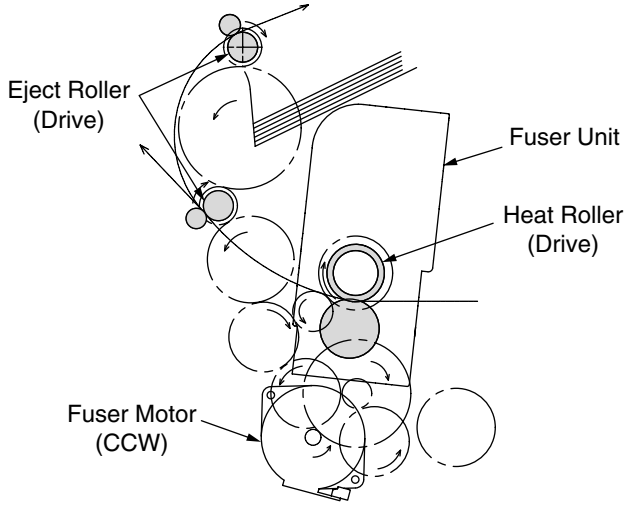


Figure 2-8

(6) Operations when the Color Drift Sensor and Density Sensor Cover is Opened

1. As indicated in Figure 2-9, when the fuser motor rotates (CW), the cover open gear rotates and then opens the cover of the color drift sensor and density sensor.

2. When the fuser motor turns in the reverse direction (CCW), the cover open gear bite no longer meshes, and then the color drift sensor and the density sensor cover closes.

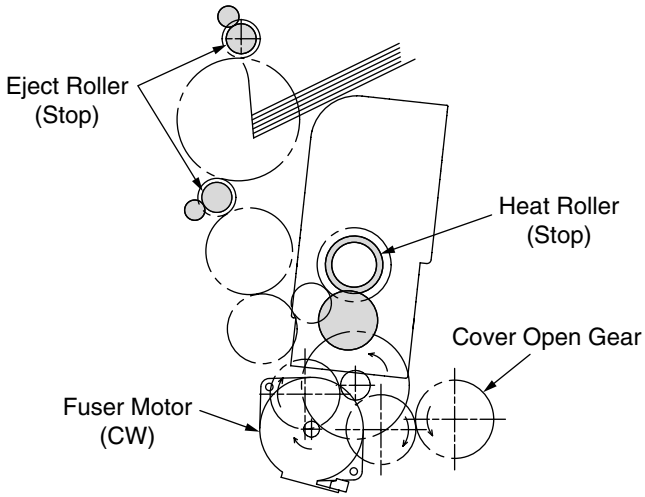


Figure 2-9

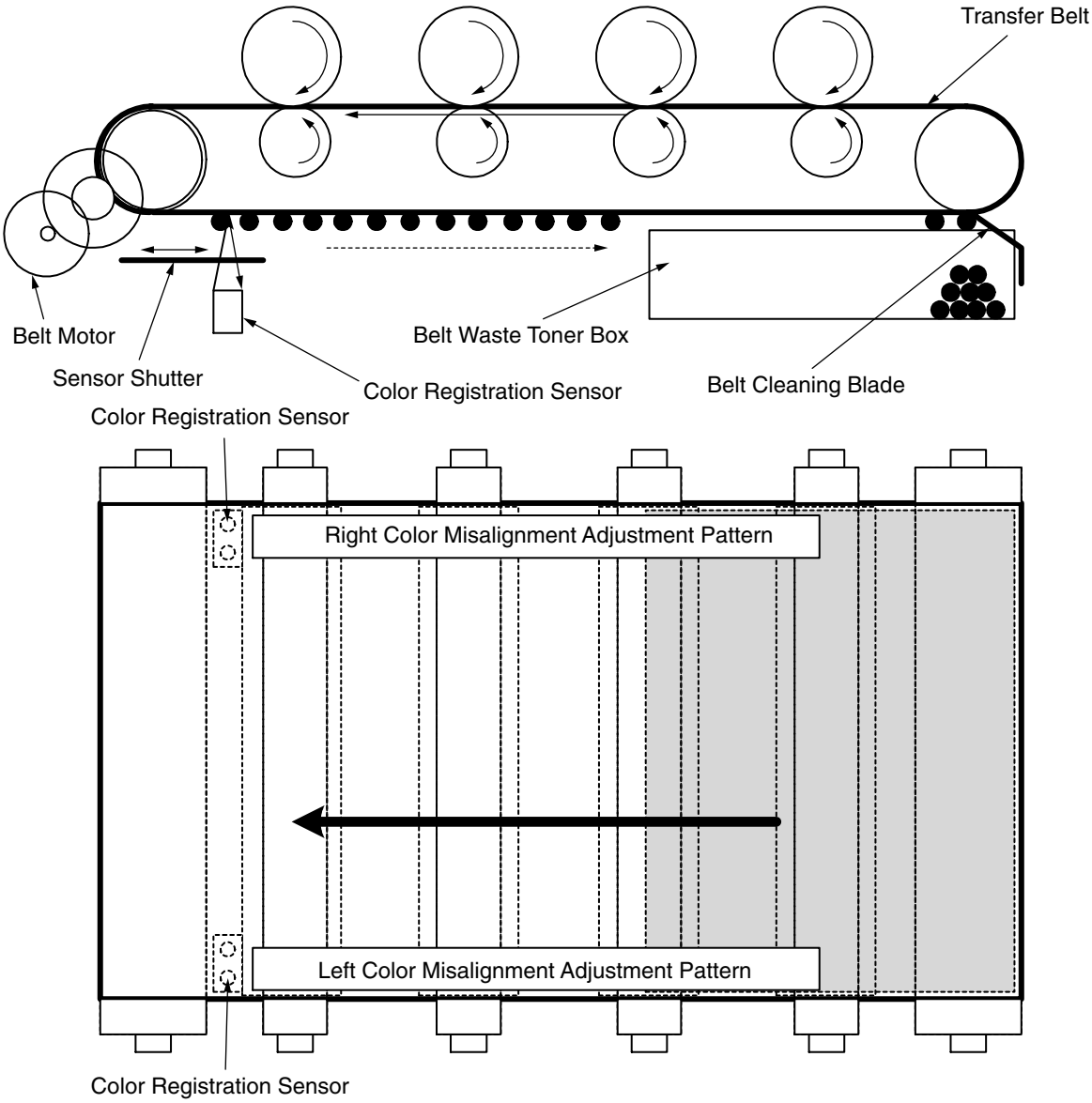
Outline of Color Misalignment Adjustment Method

Adjustment patterns printed on a transfer belt are read using sensors that are installed inside a sensor shutter placed under a transfer belt unit, for adjusting color misalignments. The sensor detects the patterns for adjusting color misalignments.

Auto-Start timing for Color registration

- In power-on
- When a cover is closed after the cover is open in a short time
- When printing 400 pages or more after the previous implementation

Toner amounts on the produced patterns, contamination of the sensor with toner, problems with opening or closing of the sensor shutter, or other reasons, a color misalignment adjustment error may occur. No control panel display of the error is provided. In such cases, adjustments on any color misalignments (Section 5.4.2.6) are forced to be executed by the Self-diagnostic Mode and displayed errors must be checked.



How to check errors and Handling of the errors
Confirm with the color registration adjustment test of the self-diagnostic mode (Section 5.4.2.6)
Handling for each error

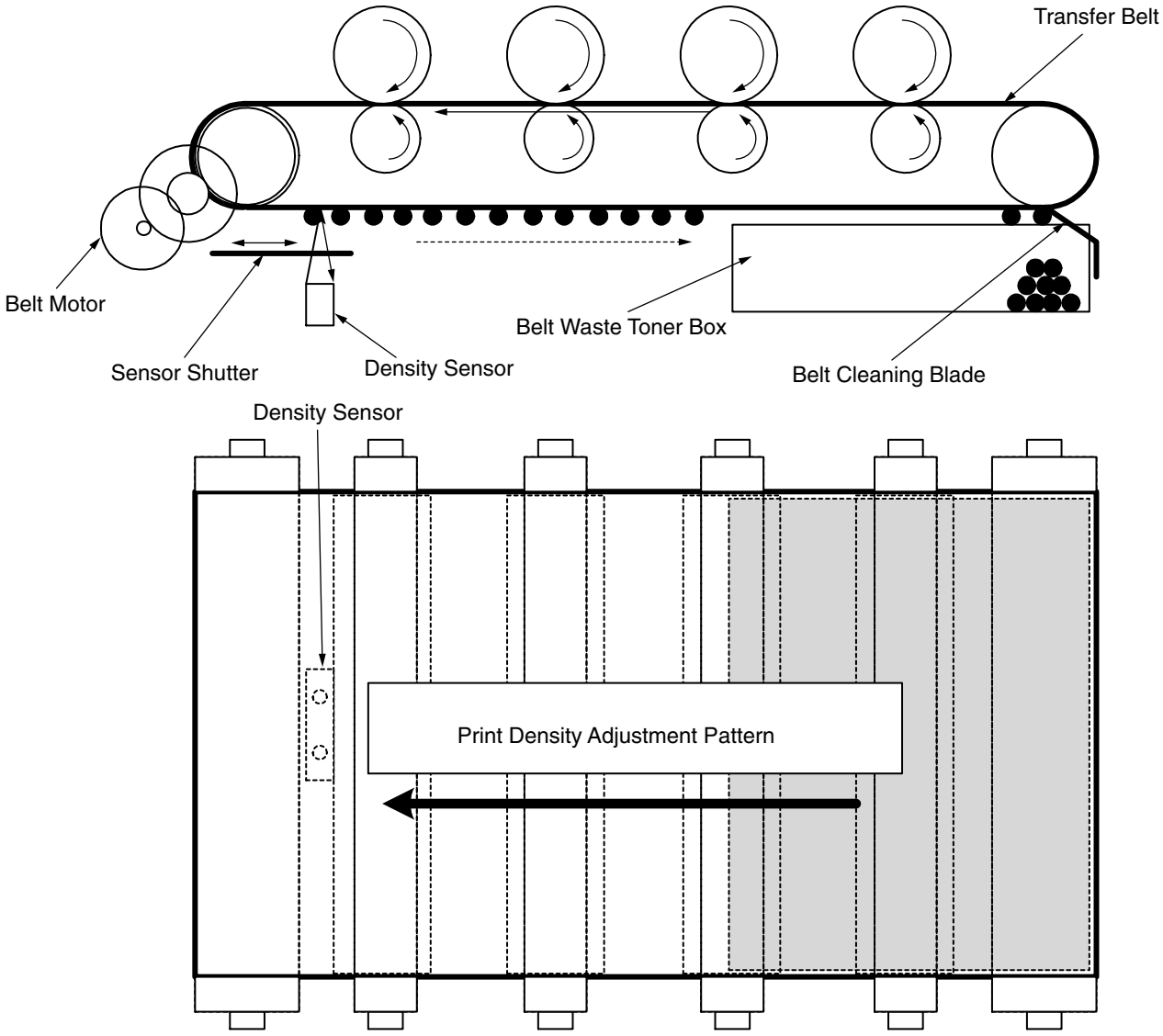
- CALIBRATION(L or R), DYNAMICRANGE(L or R)
  - Check 1 Check a connection state of a sensor cable (FFC) if the above description appears.
    Correct to a normal state if the connection state is wrong.
  - Check 2 Check that the surface of the sensor is clean without paper dust and toner.
    Wipe it off if it is dirty.
  - Check 3 Check whether an opening-closing motion of the sensor shutter is normal with MOTOR&CLUTCH TEST of the self-diagnostic mode.
    Exchange the shutter unit when the opening-closing motion is not complete.
- BELT REFLX ERR
  - Check 4 Check a cleaning state of the toner left on a belt surface besides the above Check 1, 2, and 3 if this message appears.
    Take the belt unit out of the device and check that the belt surface is clearly cleaned by rotating a drive gear in the back at the left side.
    Exchange a belt unit when a toner of the belt surface is left and it is not clean even if the drive gear rotates.
- (Y or M or C) LEFT, (Y or M or C) RIGHT, (Y or M or C) HORIZONTAL
  - Check 5 Check that a toner is not deficient due to NG color when the above message appears.
    Exchange a toner cartridge if needed.

Outline of Print Density Adjustment Method

Adjustment patterns printed on a transfer belt are read using sensors that are installed inside a sensor shutter placed under a transfer belt unit, for adjusting print density.
Auto-Start timing of Print Density Adjustment

- When environment is different considerably compared to the previous implementation in power-on
- At least 1 or more from 4 ID count values is almost new in power-on
- When ID count value is over 500 from the previous implementation

Toner amounts on produced patterns, contamination of optical sensors with toner, problems with opening or closing of the sensor shutter, or other reasons, a print density adjustment error may occur. No control panel display of the error is provided. In such cases, print density adjustments (Section 5.4.2.7) on defective colors are forced to be executed by the Self-diagnostic Mode and displayed errors must be checked.

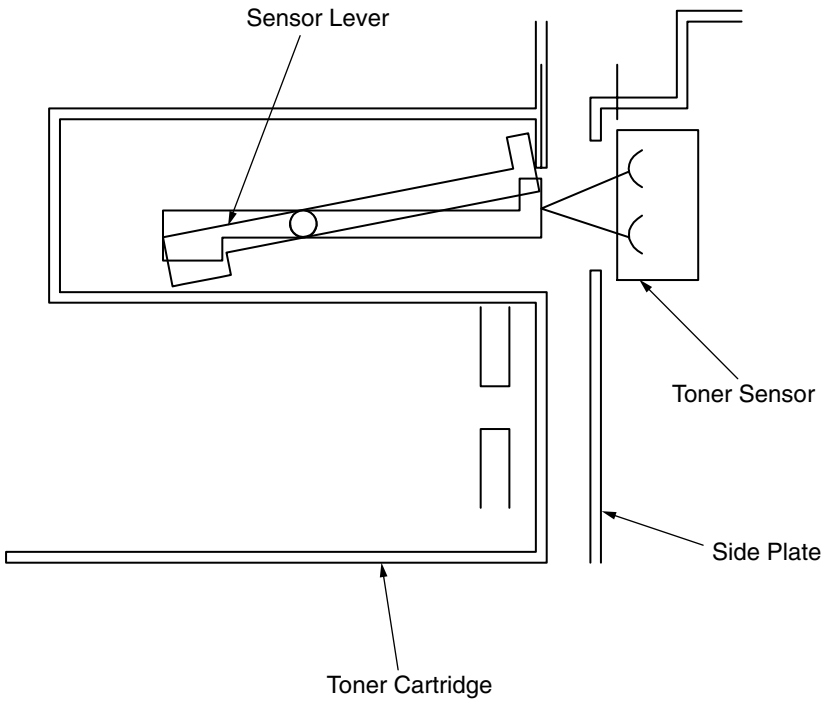


How to check errors and Handling of the errors
Confirm with the color registration adjustment test of the self-diagnostic mode (Section 5.4.2.7)
Handling for each error

- CALIBRATION ERR, DENS SENSOR ERR
  - Check 1 Check a connection state of the sensor cable when the above message appears.
    Correct to a normal state if the connection state is wrong.
  - Check 2 Check that the surface of the sensor is clean without paper dust and toner.
    Wipe it off if it is dirty.
- EDENS SHUTTER ERR
  - Check 3 Check whether an opening-closing motion of the sensor shutter is normal with MOTOR&CLUTCH TEST of the self-diagnostic mode.
- DENS ID ERR
  - Check 4 Check that there is no abnormal blushing on a drum surface by taking an ID unit out.
    Exchange a LED head (Defocusing) or exchange an ID unit.
    Apply FUSE KEEP MODE of the maintenance menu when a new ID unit is used as a test.

Principle of Detection by Toner Sensors

Movements of that sensor lever of a toner cartridge which is powered by an image drum (ID) motor are read by a toner sensor for detecting that the cartridge is low on toner. The lever moves concurrently with movement of a mixing bar placed in the cartridge. With the lever, or the sensor, contaminated with toner etc., or the cartridge not facing the sensor properly due to improper ID unit or toner cartridge installation, the sensor may not properly detect the cartridge being low on toner, causing a toner sensor error.



Principle of the toner counter

After image data is developed to binary data which is printable, Dot counter counts the data as print dots in LSI. Calculate the amount of the used toner with this count value to display a remaining amount. Meanwhile, the toner LOW detection by the toner sensor has a function that Toner LOW is detected when toner quantity in side of the toner cartridge is under a certain amount physically.

Principle of ID, Belt andFuser counter

ID counter : One third of the amount of drum rotation when three sheets of A4 paper is printed continuously is regarded as one count.

Belt counter : One third of the amount of belt rotation when three sheets of A4 paper is printed continuously is regarded as one count.

Fuser counter: On the basis of paper length of Leagal 13 inch, if it is 13 inch or less, it is regarded as 1 count. If it is over 13 inch , the number of counters is determined by multiples of Leagal 13 inch.(Round off to an integer value)

3. Printer Installation

3.1 Precautions and Prohibition

⚠Warning

- Keep away from high temperatures and open flames.
- Please do not install in a place from which a chemical reaction is started (laboratory etc.).
- Do not install near inflammable solutions such as alcohol or thinner.
- Keep out of reach of children.
- Do not install on an unstable surface (the shaky stand, leaning place, etc.).
- Keep away from dust, humidity and direct sunlight.
- Keep away from the sea breeze and corrosive gases.
- Keep away from sources of vibration.
- Pull the power plug out of the socket and contact with a customer's service centre when the printer is dropped or the cover is damaged.
  There is a risk of getting an electric shock and/or causing fire leading to personal injury.
- Do not use a power code, a printer cable, or a ground wire other than those that are indicated in User's Manual.
  Doing so may case fire.
- Do not insert materials in a vent hole.
  Doing so may cause an electric shock and/or fire leading to personal injury.
- Do not put a cup with liquids such as water on the printer.
  Doing so may cause an electric shock and/or fire leading to personal injury.
- Do not touch the fuser and other parts when opened the cover.
  Doing so may result in getting burns.
- Do not throw toner cartridges and image drum cartridges into fire. Doing so may cause dust explosion leading to get burns.
- Do not use an inflammable spray near the printer. Failure to follow may cause fire since there is an area heating up within the printer.
- Pull the power plug out of the socket and contact with a customer's service centre when the cover is unusually hot, smoking, giving off questionable odour, or making a strange noise.
  There is a risk of fire.
- Pull the power plug out of the socket and contact with a customer's service centre when a liquid such as water enters in the internal parts of the printer.
  There is a risk of fire.
- Pull the power plug out of the socket and remove foreign materials such as clips when they fall inside the printer.
  There is a risk of getting an electric shock and/or causing fire leading to personal injury.
- Do not operate and/or disassemble the printer other than that which is directed in User's Manual.
  Doing so may cause an electric shock and/or fire leading to personal injury.

⚠Caution

- Do not block the vents on the printer.
- Do not place printer directly onto a carpet.
- Ensure printer has adequate ventilation.
- Keep printer way from sources of noise and magnetic fields.
- Do not install near a monitor or television.
- Please lift both sides when moving the printer.
- Since this printer has about 25kg of weight, please raise by two or more persons.
- Do not come closer to the paper's exit area when the power is turned on, and while in printing. Doing so may result in personal injury.

Explain instructions for use and settings to customers, showing instructions of the user's manual. Especially, explain the power cord and earth cable carefully.

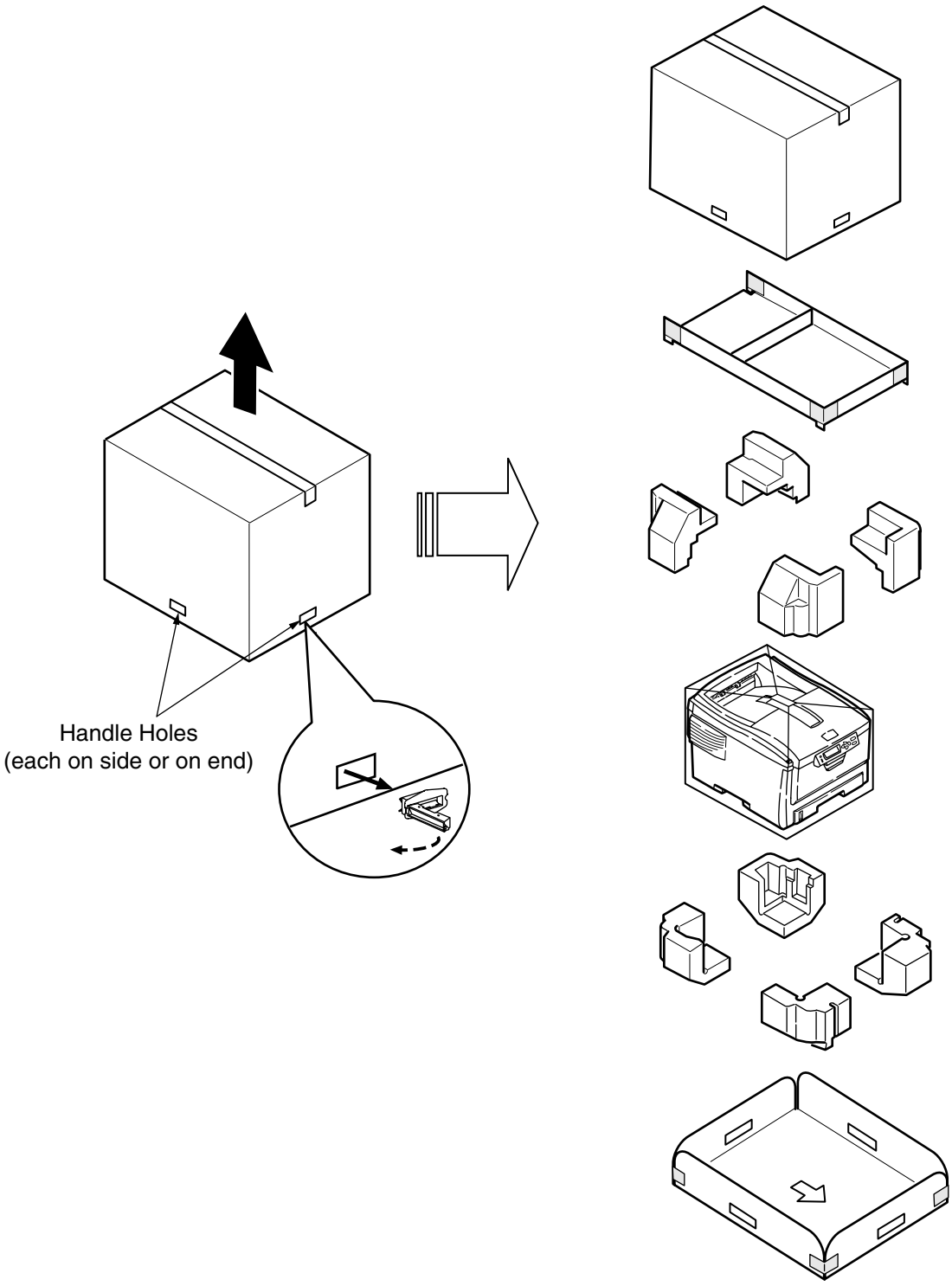
3.2 Printer Unpacking Procedure

⚠Warning	Personal injuries may occur.	⚠

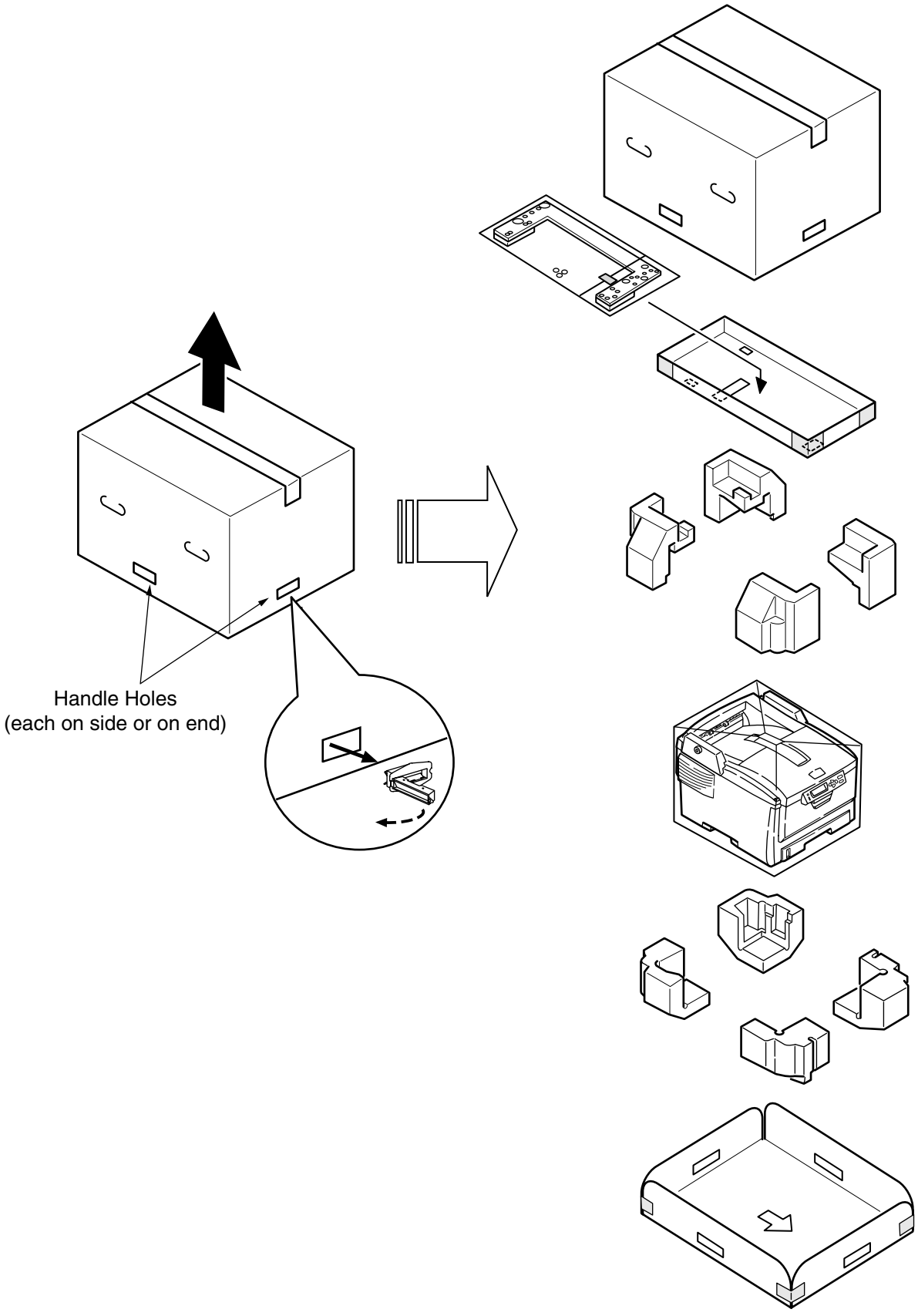
Each printer weighs about 25 kg. Lift it by more than one person.

- Punch four handle holes each on the side, or the end, of the carton box as shown below, to lift it.

Except C5540/C5510



C5540/C5510



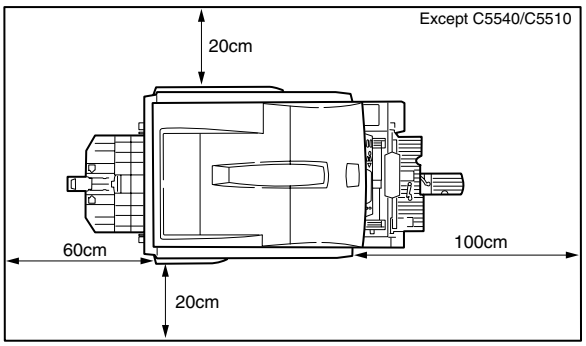
3.3 Printer Installation Instructions

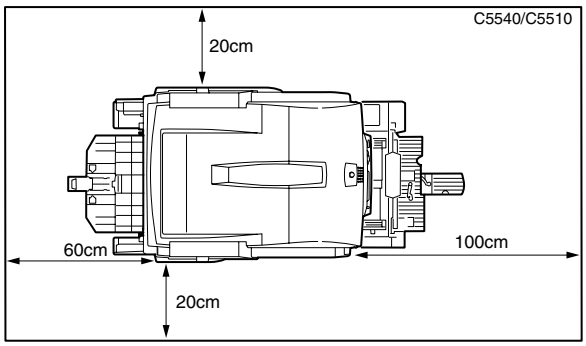
- Printers must be installed in a place that meets the following temperature and humidity conditions:
  Ambient Temperature : 10 to 32°C
  Ambient Humidity : 20 to 80% relative humidity
  Maximum Wet-Bulb Temperature: 25°C
- Take care not to allow dew condensation on printers.
- When installing printers in an area of which ambient humidity is 30% or less, use a humidifier or antistatic mat.

Installation Space

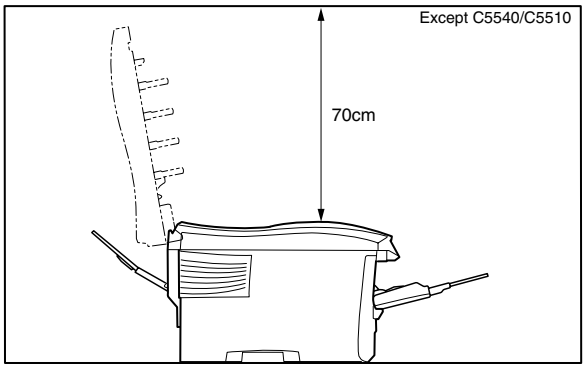
- Place printers on a flat table having the size that allows their legs to fit on the table.
- Leave sufficient space around each printer.

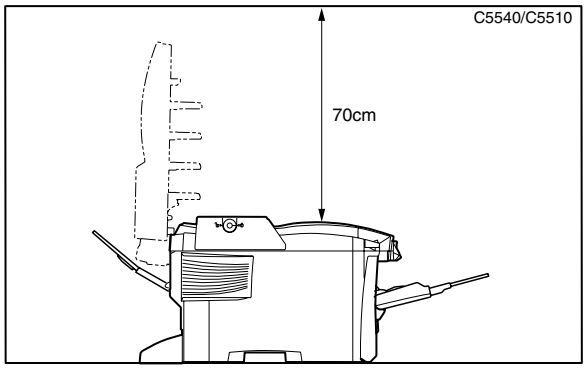
Top View





Side View





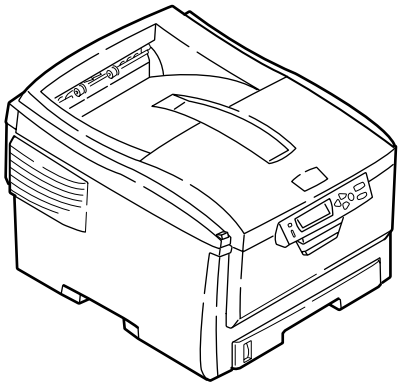
3.4 Packed Units and Attachments

- Check the packed units are free of flaws and dirt.
- Check there are no missed attachments, or damage to the packed attachments.
- Should any defective or unusual conditions are found, contact the section in charge.

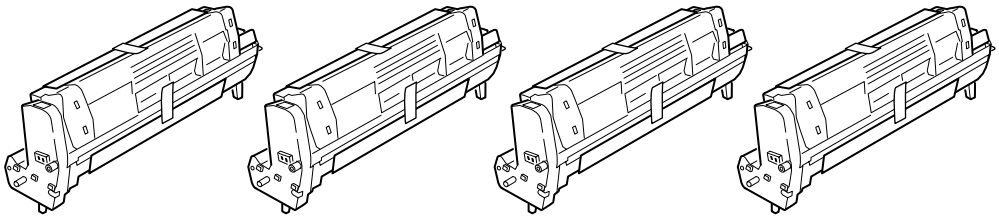
⚠Warning	Personal injuries may occur.	⚠

Each printer weighs about 25 kg. Lift it by more than one person.

☐Printer (main body)



☐Image Drum Cartridges with Starter Toner Cartridges (four sets) (contained in printer)



Explain that a toner cartridge and image drum cartridge is separable to customers.

☐Printer Software CD-ROM
☐LED Lens Cleaner
☐Power Cord
☐Warranty and Registration Card
☐Users Manual (Setup Guide)
☐Users Manual on CD-ROM
☐Quick Guide
☐Quick Guide Bag

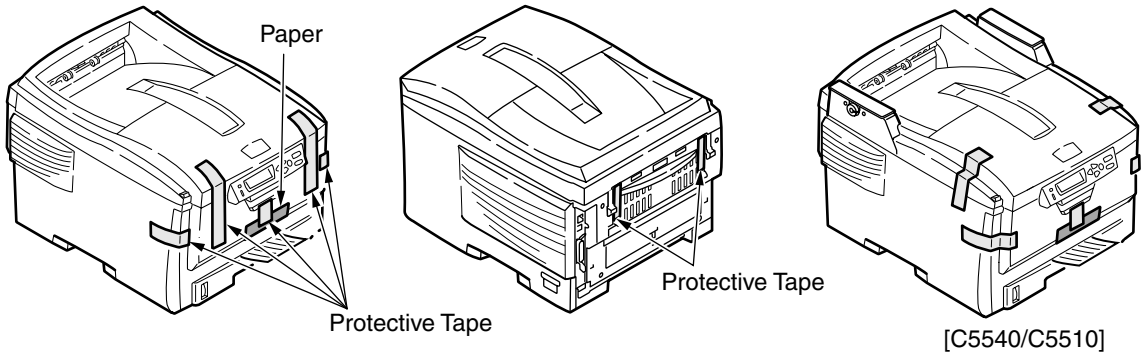
Note! No printer cables are included in printer packages.

3.5 Assembly Procedure

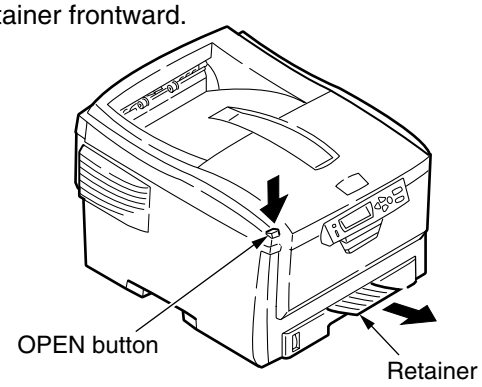
3.5.1 Printer Main Body

Remove Protective Equipment

(1) Remove protection tapes (5) of the front of the printer and protection tapes (2) of the back.

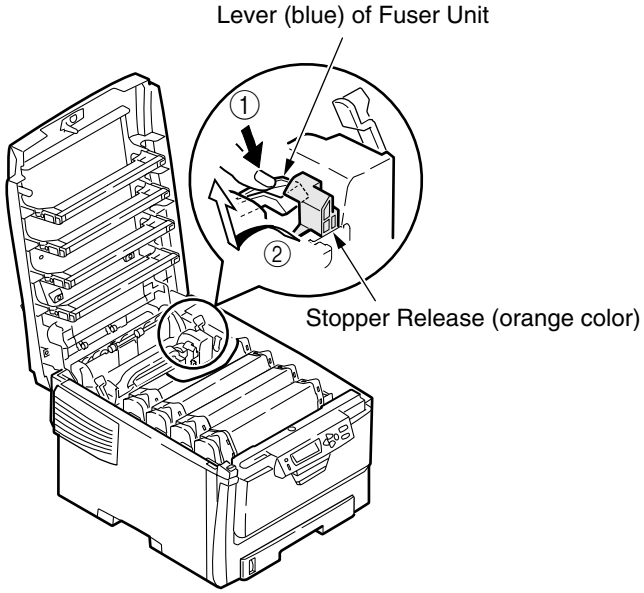


(2) Remove the paper cassette.
(3) Pull out the retainer frontward.



(4) Press the OPEN button to open the top cover.
(5) Pulling down the lever (blue) of the fuser unit in the direction of the arrow ①, remove the stopper release (orange color).

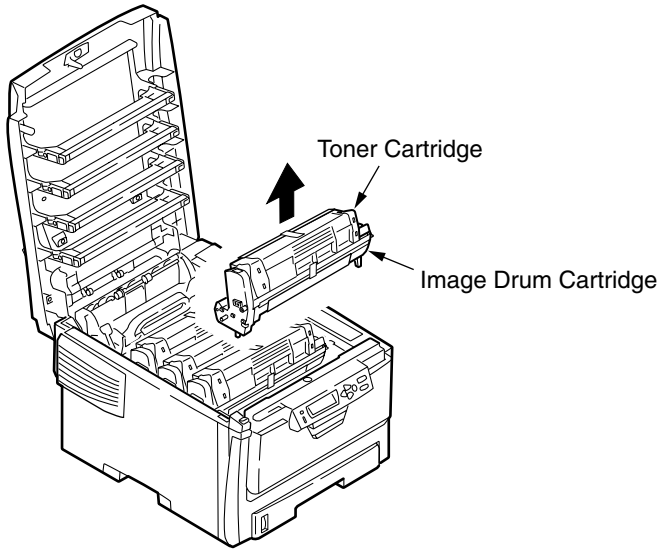
Note! Instruct the user of the printer to be sure to keep the stopper release, which is used for transporting the printer, at hand.



Install Image Drum Cartridges

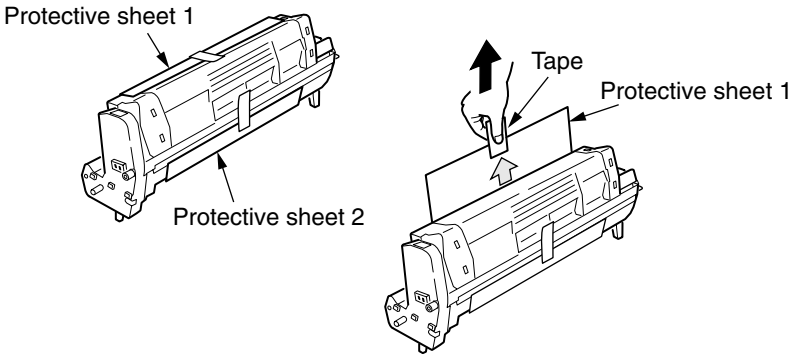
(1) Take image cartridges (Four cartridges) with toner cartridges softly.

Note! • Take sufficient care in handling the image drums (green cylindrical parts), which are very sensitive.
• Do not expose the image drum cartridges to direct sunlight, strong light (of about 1500 lux. or more) or, for five minutes or more, room light.
• Make sure that a blue lever of the toner cartridge should not be moved here.

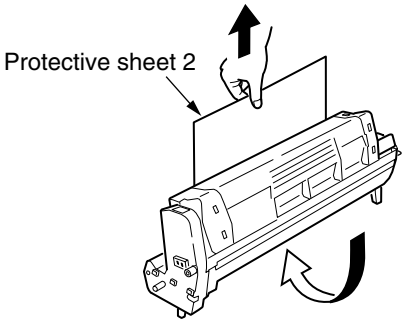


(2) Put an image cartridge on a flat desk and remove tape holding a protection sheet. Then, pull it in the direction of an arrow.

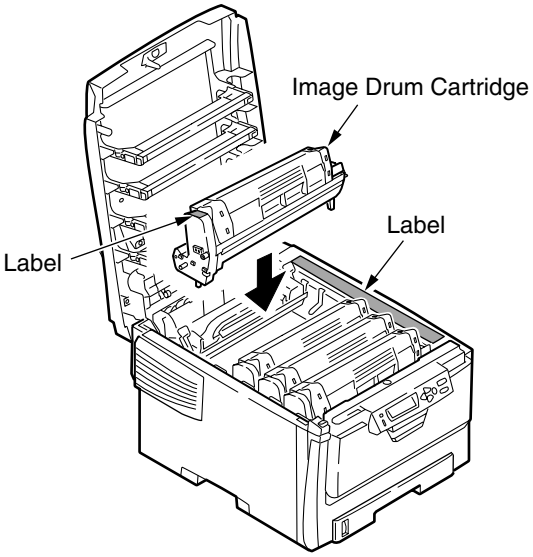
Note! Make sure to work with an image drum putting on a desk.



(3) Pull protective sheet 2 in the arrow direction from image drum cartridge.

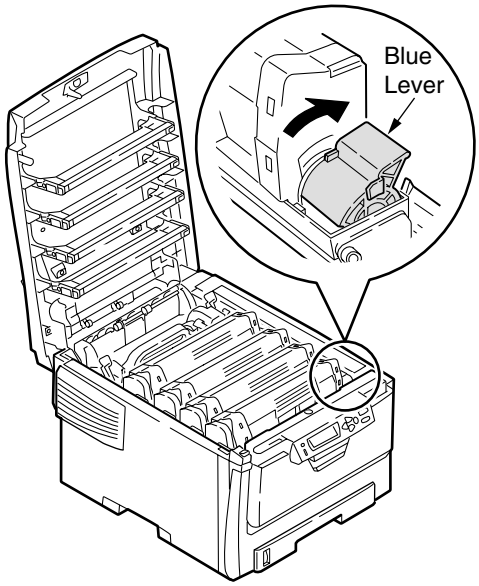


(4) Make sure the labels of the image drum cartridges have the same colors as the labels beside the places of the cartridges, respectively.
(5) Reinstall the four image drum cartridges carefully.



(6) Turn the blue lever of the toner cartridge in the arrow direction until it stops completely.

Note!
- 1500 pages are printable with Starter toner (a toner cartridge which is attached at the time of purchase) under the condition of A4 and 5% print density.
- Make sure that a lever of the toner cartridge turn in the arrow direction until it stops completely when [REPLACE THE TONER] remains displayed.
- It is invalid to use Starter toner once a regular toner cartridge is used. Use Starter toner up first, and then a regular toner should be used.
- The starter toner should be replaced after displaying [ORDER TONER]. If it is replaced before the display, the correct remaining amount of the toner is not displayed.

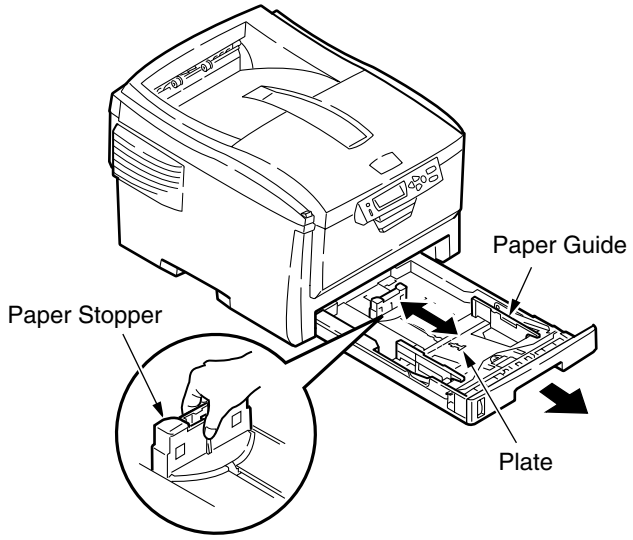


Load Paper in Paper Cassette

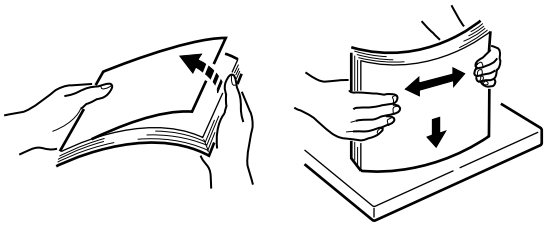
(1) Slide out the paper cassette.

Note! Do not remove the rubber from the plate.

(2) Place the paper stopper in the position of the size of print paper.



(3) Sufficiently loosen the paper, and jog the paper so as that its edges line up.



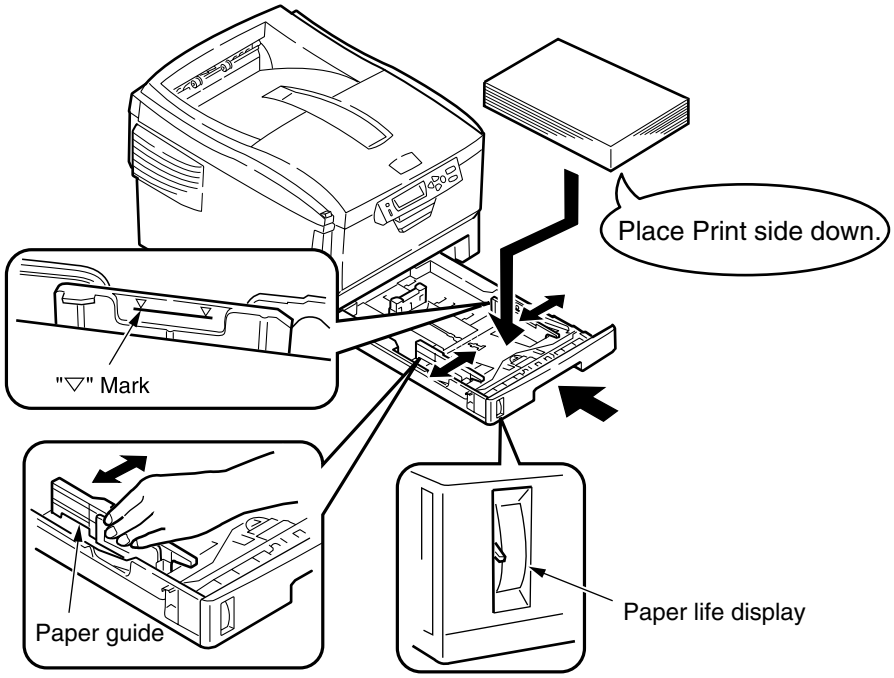
(4) Load the paper face down in the paper cassette.

Note! • Print paper must be placed in the paper cassette so as to touch sides of the paper cassette.

• Loaded print paper must not exceed the position pointed by the inverted triangles (▽)(300 sheets for 70-kg paper).

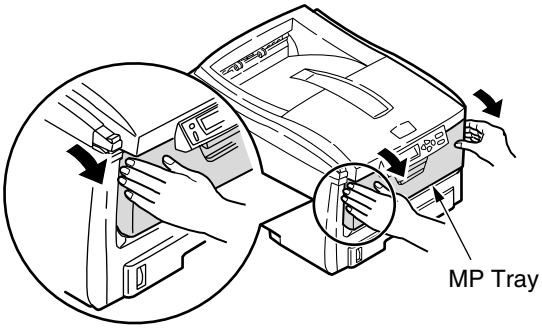
(5) Secure the paper with the paper guide.

(6) Slide the paper cassette back in.

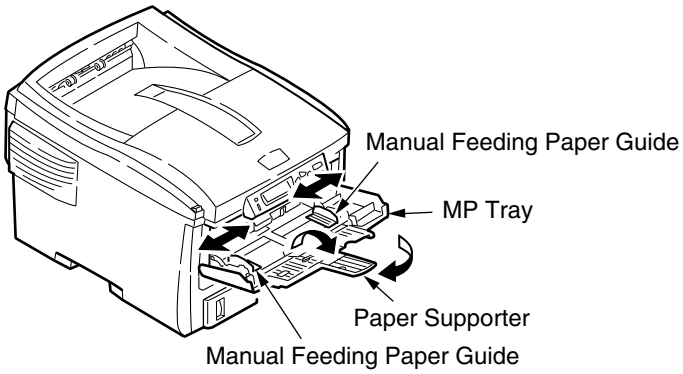


Load Paper in MP (Multipurpose) Tray

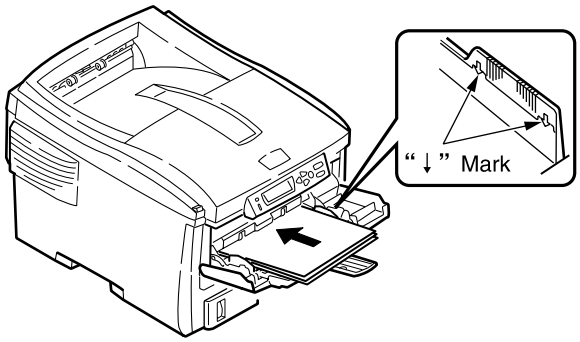
(1) Open the MP tray and then the paper supporter.



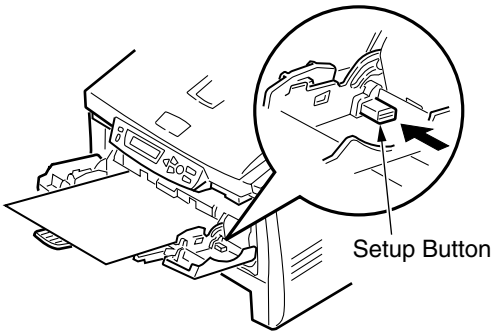
(2) Align the manual feeding paper guide with the size of print paper.
(3) Jog the paper so as that its edges line up.



(4) Insert the paper face up, straight along the paper guides for manual feeding, as far as it will go.



(5) Press the setup button.



3.5.2 Power Cable Connection

Conditions for Power Supplies

- The following conditions apply to the power supplies of printers:
  Alternate Current (AC) : 100 V ±10%
  Power Supply Frequency : 50, or 60 ±2 Hz
- For unstable power supplies, use voltage regulators etc.
- The maximum power consumptions of printers are 950 W. Be sure power supplies have power supply capacities adequate for the printers.

⚠**Warning**	It may expose you to electric shocks or cause a fire.	

- Make sure to turn off printers before attaching and detaching power supply cords and grounding wires to the printers.
- Grounding wires must be connected to dedicated grounding terminals. Never connect them to water or gas pipes, or telephone grounds, lighting conductors or other lines.
- Be sure to insert or remove power supply cords by pushing or pulling on the plugs.
- Insert power supply plugs into receptacle outlets as far as they will go.
- Do not insert or pull out power supply plugs with wet hands.
- Install power supply cords in a location where they will not be trodden, and do not place things on them.
- Do not tie, in bundles, or knot power supply cords in use for printers.
- Do not use damaged power supply cords for printers.
- Do not use star-burst connections for printers.
- Do not connect a printer to the same receptacle outlet being used for electrical equipment other than the printer. Connecting a printer such a receptacle outlet, particularly being used for air conditioning, copying or shredding equipment, may cause a malfunction in the printer due to electrical noises. If a printer is connected to such a receptacle outlet by necessity, use a commercially available noise filter or noise-cut transformer.
- For power supply cords of printers, use only those packed with the printers.
- Do not use extension cords for printers. If they are used by necessity, select cords with a rating of 15 A or more.
- Printers may not function correctly when used with extension cords.
- Do not turn off printers or pull out their power supply plugs while the printers are printing.
- Please disconnect printers from the mains supply if they will not be used for an extended period of time.

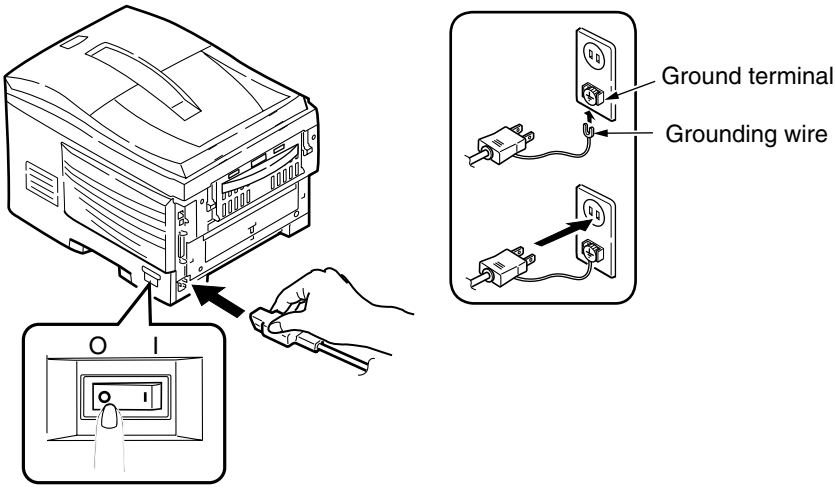
Explain connections of the power cord and earth cable to customers carefully, showing the user's manual.

Connect Power Supply Cord

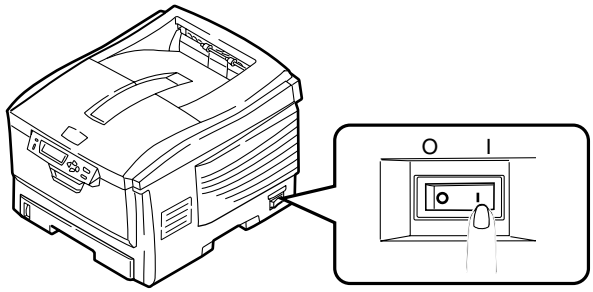
Note! Be certain the power switch is placed in the OFF (O) position.

(1) Plug the power supply cord in the printer.

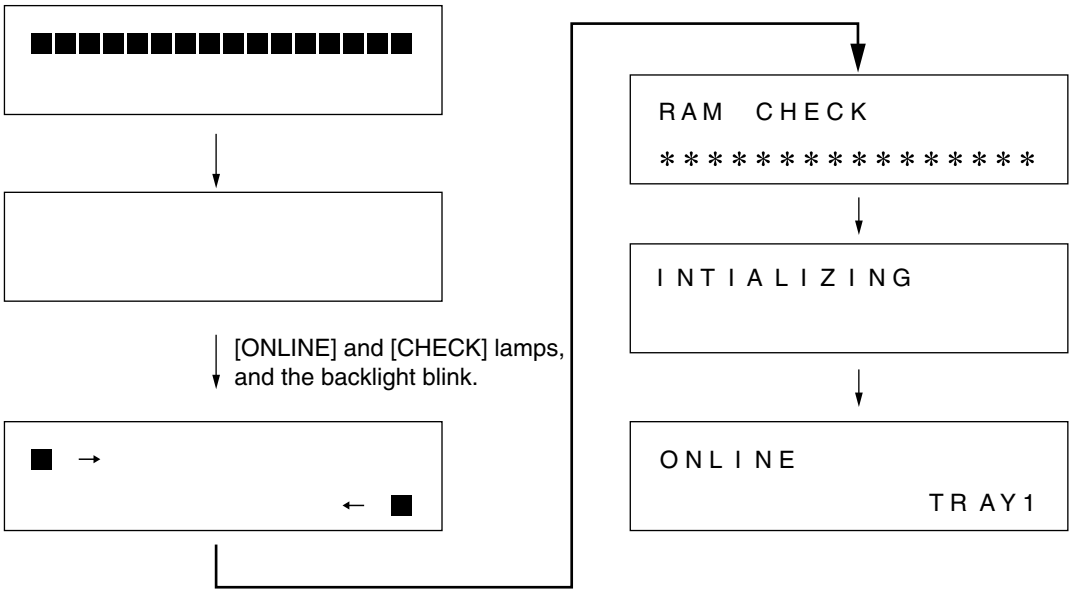
(2) After the grounding wire is connected to the grounding terminal. Insert the power supply cord into the receptacle socket.



Press ON (I) of Power Switch

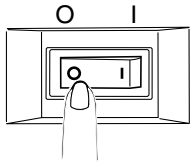


The control panel provides messages as shown below and, after the printer is activated completely, it displays [ONLINE].



Turning off the Printer

Turn off the printer in C5450/C5400/C5540 without an internal hard disk (option) and in C5250/ C5200/C5150/C3200n/C3200/C3100/C5510.



Note! Do not turn OFF the printer while printing.

In case that an internal hard disk (option) is installed in C5450/C5400, follow the procedure as shown below without turning off the printer immediately.

Note!
- The internal hard disk may be damaged and unusable if the printer is switched off immediately.
- [SHUTDOWN MENU] is displayed only when an optional internal hard disk is installed.

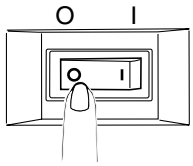
(1) Press the "MENU +"  switch a couple times to show [SHUTDOWN MENU].

(2) Press the "ENTER"  switch to show [SHUT DOWN START/EXECUTE].

(3) Press the "ENTER"  switch.

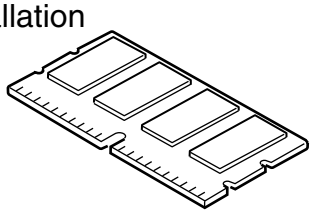
[SHUTDOWN] is displayed and shutdown process is executed.

(4) Press the power switch OFF(O) after [TURN OFF POWER/ SHUTDOWN IS COMPLETED] is displayed.



3.5.3 Installation of Optional Components

(1) Extension Memory Installation



C5400 Expansion Memory

Model name	Memory Size (total memory size)
None (standard)	64MB (64MB)
MLMEM64C	+64MB (128MB)

C5250/C5510 Expansion Memory

Model name	Memory Size (total memory size)
None (standard)	32 + 64MB (96MB)
MLMEM256B	32 + 256MB (288MB)

C5200/C5150/C3200n/C3200/C3100 Expansion Memory

Model name	Memory Size (total memory size)
None (standard)	32MB (32MB)
MLMEM64B	+64MB (96MB)
MLMEM256B	+256MB (288MB)

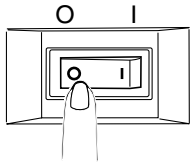
C5540 Expansion Memory

Model name	Memory Size (total memory size)
None (standard)	64 + 64MB (128MB)
MLMEM128B	64 + 128MB (192MB)
MLMEM256B	64 + 256MB (320MB)

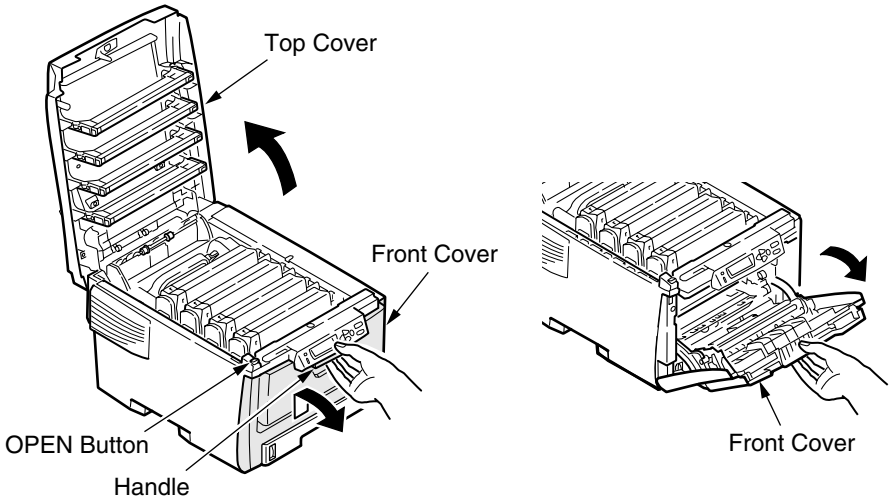
Note! • Be sure to use Oki Data genuine memory. Printers do not operate using memory other than Oki Data genuine memory.
• Installing 64-MB extension memory in printers is recommended for the printers to print both sides of paper.
• Installing 64-MB extension memory in printers is recommended for the printers to print banner-sheet paper.
• One memory slot is provided.
• Extension memory is not interchangeable between C5400/C5450 and C5250/C5200/ C5150/ C3200n/C3200/C3100.

Power Off Printer and Remove Power Supply Cord

Note! nstalling options to printers while the printers are powered on may cause a problem with the printers.

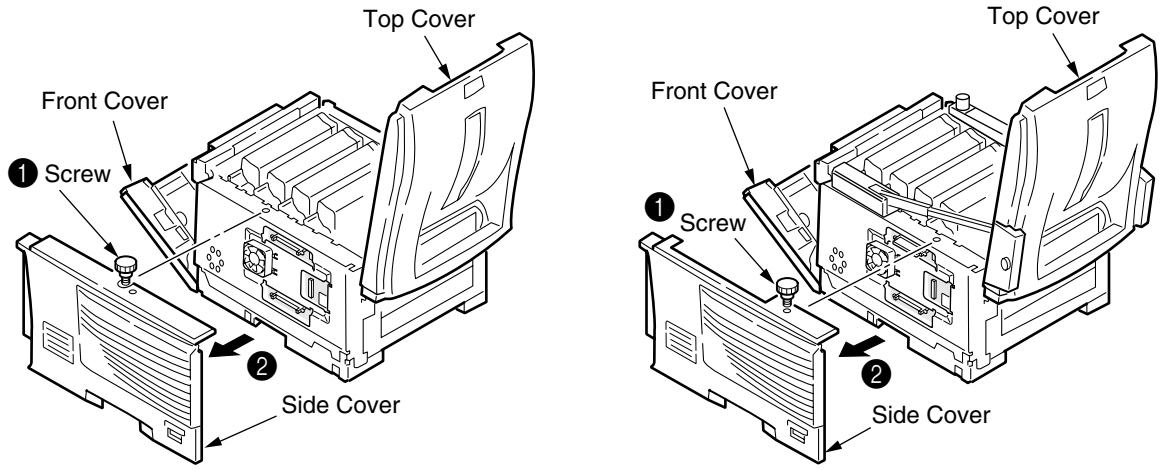


Open Top Cover and Front Cover



Remove Side Cover

(1) Loosen the screw (at one place).
(2) Remove the side cover. It can become detached by moving it upward and outward.



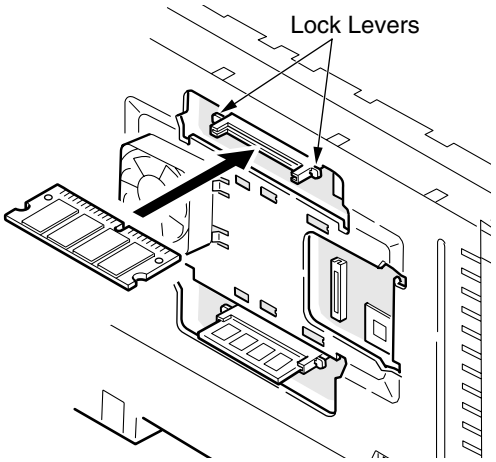
[C5540/5510]

Install Memory

C5400/C5450/C5540 (C5540 comes with 64M.)

(1) Remove static electricity by bringing a bag into contact with a metal part before the memory is taken out of the bag.
(2) Insert the memory into an empty slot.
(3) Make sure that the memory is completely held by the right and left lock lever.

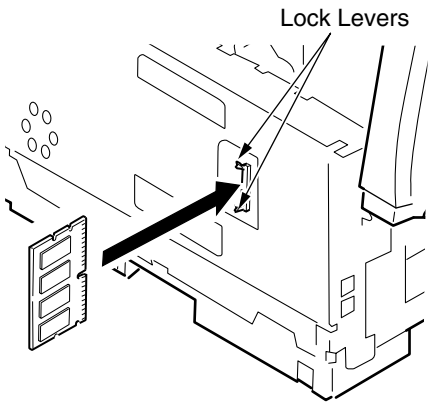
Note! • Do not touch electronic components and connector terminals.
• Be careful of the memory direction. There is a cutting part to adapt to the connector of the slot.



C5250/C5200/C5150/C3200n/C3200/C3100/C5510 (C5510 comes with 64M.)

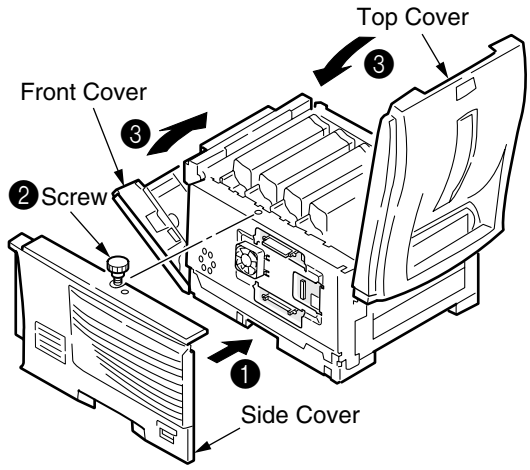
(1) Remove static electricity by bringing a bag into contact with a metal part before the memory is taken out of the bag.
(2) Insert the memory into an empty slot.
(3) Make sure that the memory is held completely by the top and bottom lock lever.

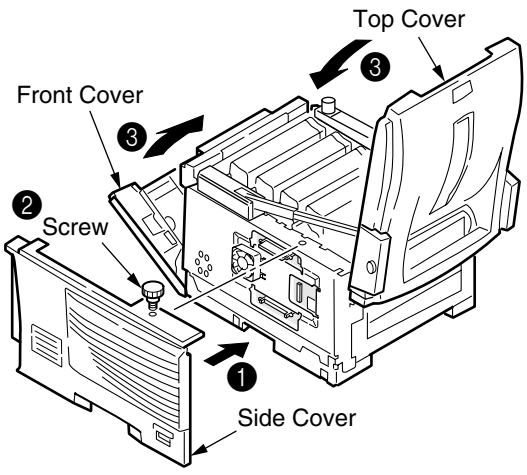
Note! • Do not touch electronic components and connector terminals.
• Be careful of the memory direction. There is a cutting part to adapt to the connector of the slot.



Reinstall Side Cover

(1) Reinstall the side cover.
(2) Fasten the cover with the one screw.
(3) Close the top cover and the front cover.



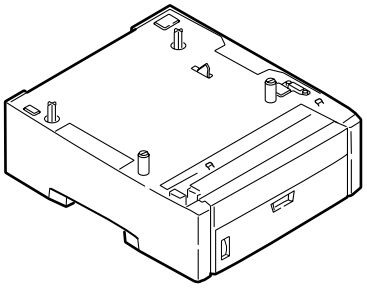


[C5540/5510]

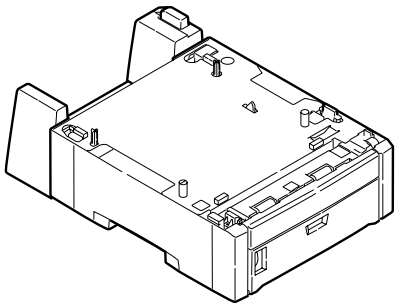
(2) Second Tray Installation(This is unavailable for C3200n/C3200/C3100/C5510.)

A second tray expands the printer's paper holding capacity, and can hold 530 sheets of 70-kg paper in it. A printer equipped with the tray can continuously print those 930 sheets of the paper, using the paper cassette and MP tray that are standard on the printer.

Type: MLTRY-C4C1

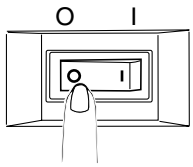


Type:



Power Off Printer to Remove Power Supply Cord

Note! Installing the second tray with the printer powered on may cause a problem with the printer.



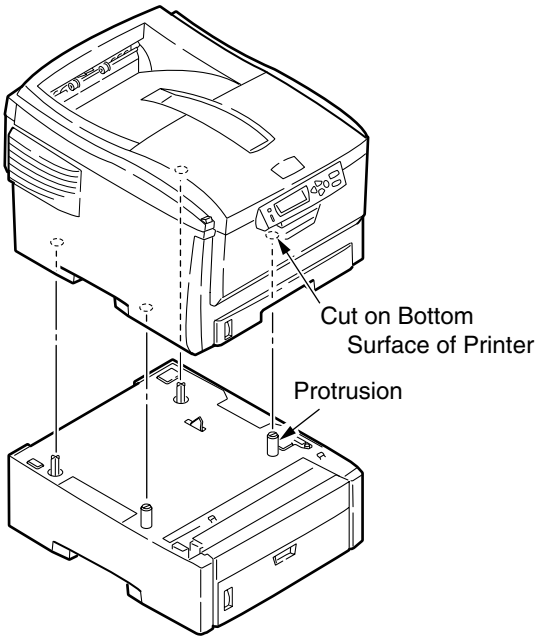
Place Printer on Second Tray Unit

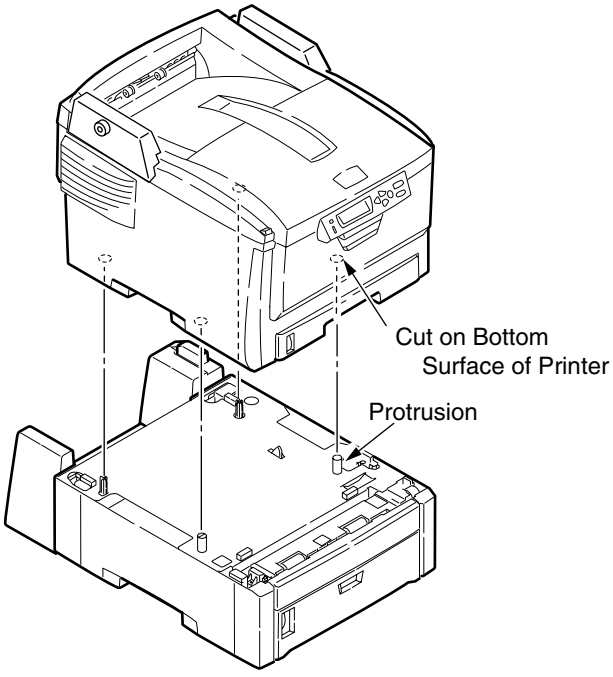
Note! Each printer weighs about 25 kg. Lift it by more than one person.

(1) Align the cuts on the bottom surface of the printer with the protrusions of the second tray unit.

(2) Put the printer on the second tray unit carefully.

For removing the second tray, reverse the installation procedure.



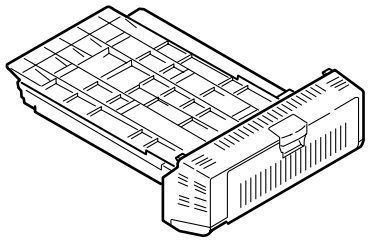


(3) Duplex-Unit Installation

A duplex unit is used for a printer to print both sides of paper.

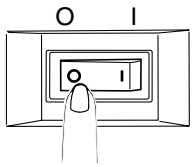
Note! Installing extension memory in printers is recommended for the printers to print both sides of paper.

Type: MLDXU-C4C

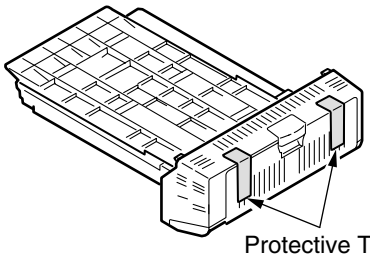


Power Printer Off to Remove Power Supply Cord

Note! nstalling the duplex unit with the printer powered on may cause a problem with the printer.

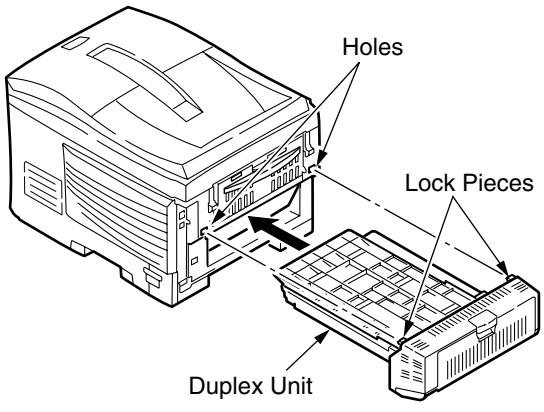


Remove Protective Tape from Duplex Unit



Install Duplex Unit

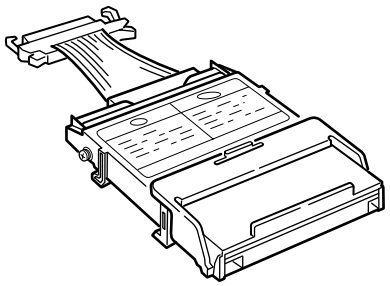
(1) Slide the duplex unit into the rear of the printer as far as the unit will go.
(2) Be sure the lock piece of the unit is completely engaged in the cut on the rear on each side.



(4) Internal Hard Disk (C5450/C5400/C5540 only)

It is an internal hard disk which is added to the printer. It is used when printing for validation, authentication, saving of the print job or buffer printing are implemented or [COLLATE FAIL] is shown in collation copy printing.
It is not available to download a font.

Note! Turn off the power after Shut down menu is executed when an internal hard disk is installed. The hard disk may be damaged and unusable if the printer is switched off immediately.

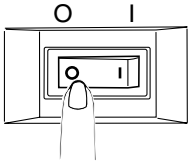


Memo The hard disk is divided into three partitions such as "PCL", "SHARING" and "PSE", and each partition size is allocated as below.

PCL	20%
SHARING	50%
PSE	30%

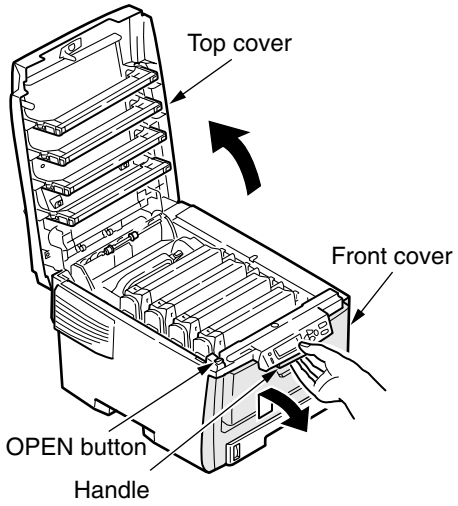
Power Printer Off to Remove Power Supply Cord, the printer cable

Note! nstalling the duplex unit with the printer powered on may cause a problem with the printer.

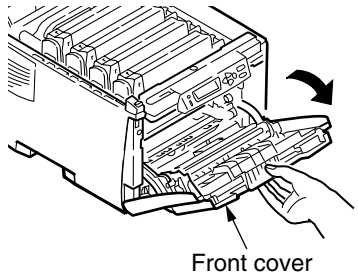


Open the top cover and the front cover

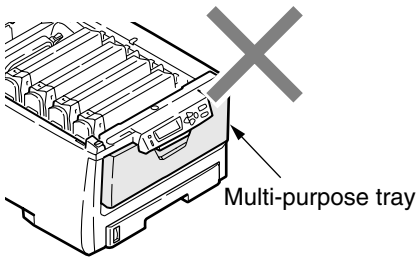
(1) Press OPEN button to open the top cover.



(2) Lift up the handle in the center of the front cover, and then, pull the front cover.

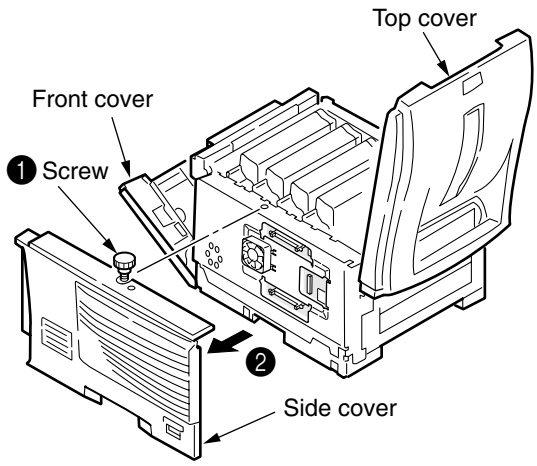


Note! It differs from how to open multi-purpose tray (See the following figure.)



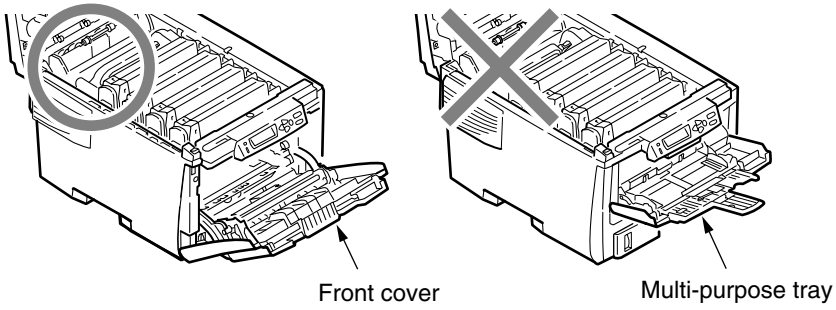
Detach the side cover

(1) Slacken a screw.
(2) Detach the side cover.
Slide out lifting the top part of the side cover.



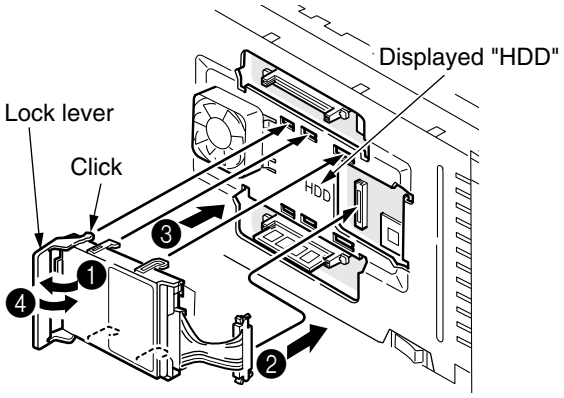
Memo Make sure the front cover is open when the side cover is not detached.

[The condition where the front cover is open] [The condition where Multi-purpose tray is open]



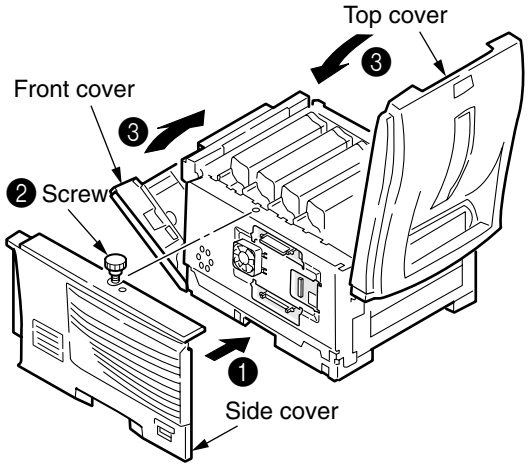
Install an internal hard disk

(1) Pull a lock lever of the internal hard disk.
(2) Insert the cable of the internal hard disk into the connector on the control base.
(3) Sets the internal hard disk to fit the line displayed in "HDD".
(4) Fold the lock lever until you hear it click.



Attach the side cover

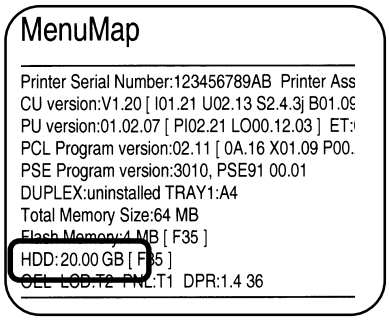
(1) Attach the side cover.
(2) IFix it with a screw.
(3) Close the top cover and the front cover.



Connect the power code and printer cable to the printer and turn ON the printer

Print MenuMap and confirm that an internal hard disk is appropriately installed

(1) Print MenuMap.
Refer to " Chapter 3.6 Menu Map Printing" to print MenuMap.
(2) Check the capacity of the internal hard disk is displayed in HDD.



Memo The capacity of the hard disk may differ from the example of the above figure.

Note! Reinstall the internal hard disk when the capacity of HDD is not displayed.

In addition, a setting to recognize the internal hard disk in the printer driver is required.
Please refer to Chapter 3-9 if the printer driver is not set up, proceed after the printer driver is installed.

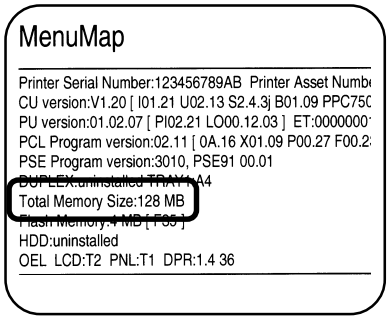
3.5.4 Checking of Optional-Component Recognition

Please refer to “3.6 Menu Map Printing” to print MenuMap to confirm that options are correctly installed.

(1) Checking for Proper Extension Memory Recognition

Check Information Contained in MenuMap

Check the total memory size appearing at Total Memory Size on the header of MenuMap.

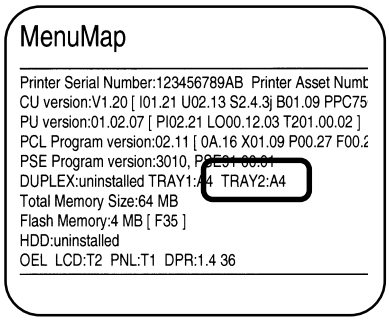


(2) Checking for Proper Second Tray Recognition

<Checking for Proper Second Tray Recognition>

Check Information Contained in MenuMap

Check Tray 2 is in the header part.

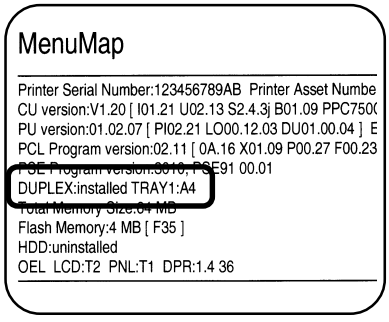


(3) Checking for Proper Duplex Unit Recognition

<Checking for Proper Duplex Unit Recognition>

Check Information Contained in MenuMap

Check [Duplex printing : installed] is in the header of MenuMap.



3.6 MenuMap Printing

Make sure that the printer operates normally.

For C5450/C5400/C5540 and C5250/C5200/C5150/C3200n

(1) Set A4 papers in a tray.

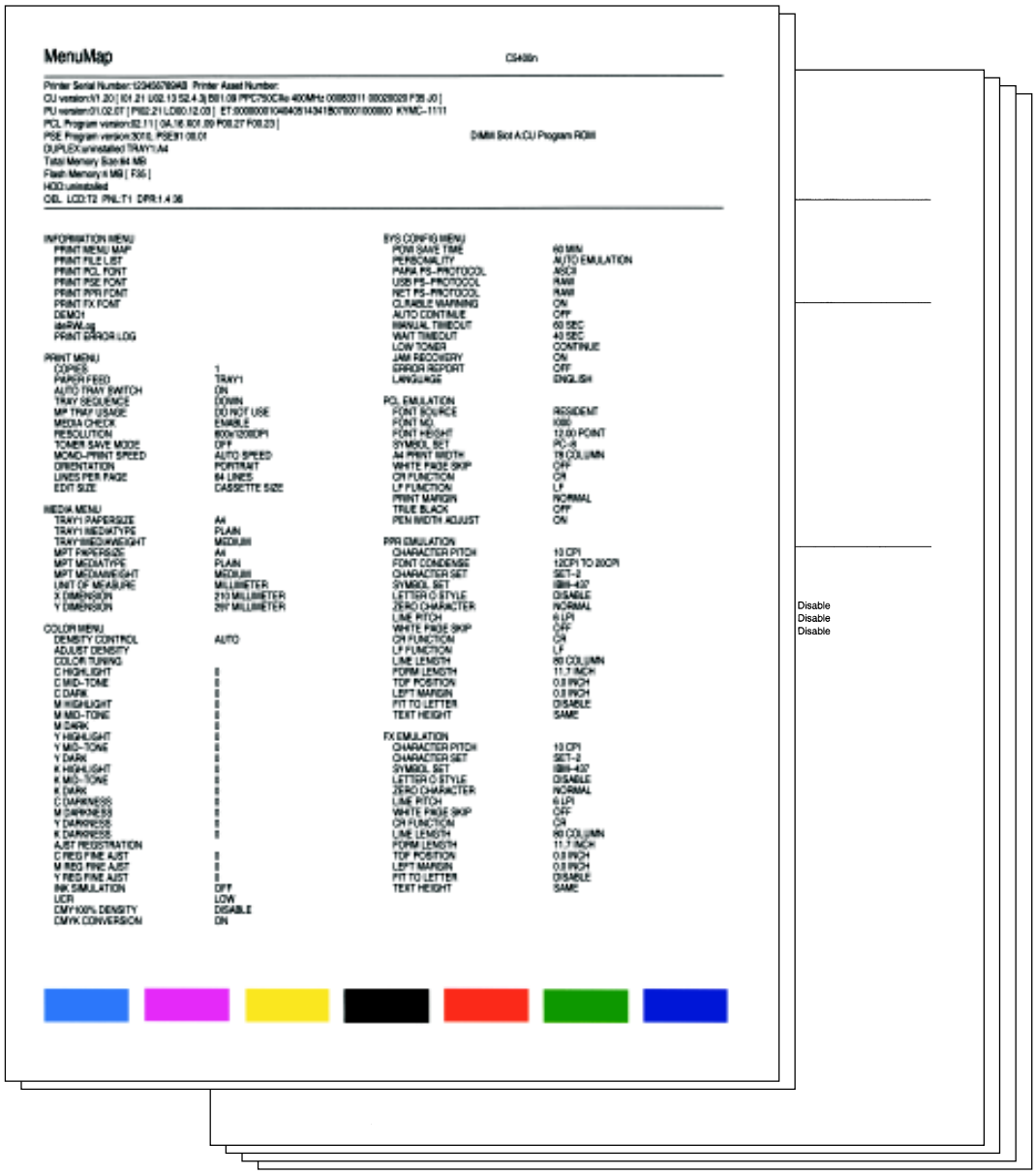
(2) Press the "MENU +"  switch a couple times to show [Information menu].

(3) Press the "ENTER"  switch to show [Menu map Printing/ EXECUTE].

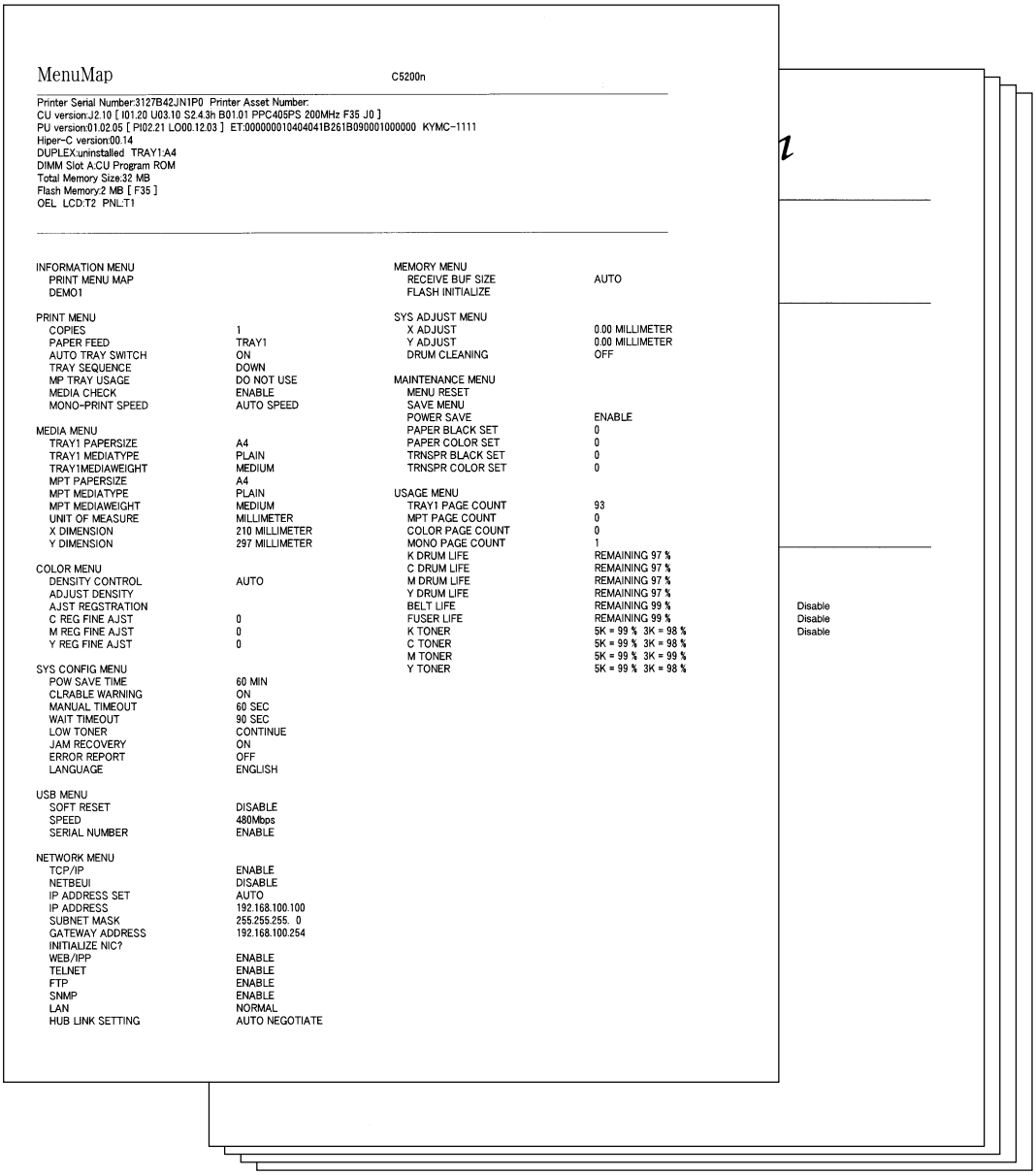
(4) Press the "ENTER"  switch.

Menu map printing is started (2pages for C5450/C5400, 1 page for C5250/C5200/C5150/C3200n.)
Following it, Network Information is printed (4 pages.)

(Sample) In case of C5450/C5400/C5540



(Sample) In case of C5250/C5200/C5150/C3200n



MenuMap C5200n

Printer Serial Number:3127B42JN1P0 Printer Asset Number:
CU version:J2.10 [I01.20 U03.10 S2.4.3h B01.01 PPC405PS 200MHz F35 J0]
PU version:01.02.05 [PI02.21 LO00.12.03] ET:000000010404041B261B090001000000 KYMC-1111
Hiper-C version:00.14
DUPLEX:uninstalled TRAY1:A4
DIMM Slot A:CU Program ROM
Total Memory Size:32 MB
Flash Memory:2 MB [F35]
OEL LCD:T2 PNL:T1

INFORMATION MENU	
PRINT MENU MAP	
DEMO1	
PRINT MENU	
COPIES	1
PAPER FEED	TRAY1
AUTO TRAY SWITCH	ON
TRAY SEQUENCE	DOWN
MP TRAY USAGE	DO NOT USE
MEDIA CHECK	ENABLE
MONO-PRINT SPEED	AUTO SPEED
MEDIA MENU	
TRAY1 PAPERSIZE	A4
TRAY1 MEDIATYPE	PLAIN
TRAY1MEDIAWEIGHT	MEDIUM
MPT PAPERSIZE	A4
MPT MEDIATYPE	PLAIN
MPT MEDIAWEIGHT	MEDIUM
UNIT OF MEASURE	MILLIMETER
X DIMENSION	210 MILLIMETER
Y DIMENSION	297 MILLIMETER
COLOR MENU	
DENSITY CONTROL	AUTO
ADJUST DENSITY	
AJST REGSTRATION	
C REG FINE AJST	0
M REG FINE AJST	0
Y REG FINE AJST	0
SYS CONFIG MENU	
POW SAVE TIME	60 MIN
CLRABLE WARNING	ON
MANUAL TIMEOUT	60 SEC
WAIT TIMEOUT	90 SEC
LOW TONER	CONTINUE
JAM RECOVERY	ON
ERROR REPORT	OFF
LANGUAGE	ENGLISH
USB MENU	
SOFT RESET	DISABLE
SPEED	480Mbps
SERIAL NUMBER	ENABLE
NETWORK MENU	
TCP/IP	ENABLE
NETBEUI	DISABLE
IP ADDRESS SET	AUTO
IP ADDRESS	192.168.100.100
SUBNET MASK	255.255.255. 0
GATEWAY ADDRESS	192.168.100.254
INITIALIZE NIC?	
WEB/IPP	ENABLE
TELNET	ENABLE
FTP	ENABLE
SNMP	ENABLE
LAN	NORMAL
HUB LINK SETTING	AUTO NEGOTIATE

MEMORY MENU	
RECEIVE BUF SIZE	AUTO
FLASH INITIALIZE	
SYS ADJUST MENU	
X ADJUST	0.00 MILLIMETER
Y ADJUST	0.00 MILLIMETER
DRUM CLEANING	OFF
MAINTENANCE MENU	
MENU RESET	
SAVE MENU	
POWER SAVE	ENABLE
PAPER BLACK SET	0
PAPER COLOR SET	0
TRNSPR BLACK SET	0
TRNSPR COLOR SET	0
USAGE MENU	
TRAY1 PAGE COUNT	93
MPT PAGE COUNT	0
COLOR PAGE COUNT	0
MONO PAGE COUNT	1
K DRUM LIFE	REMAINING 97 %
C DRUM LIFE	REMAINING 97 %
M DRUM LIFE	REMAINING 97 %
Y DRUM LIFE	REMAINING 97 %
BELT LIFE	REMAINING 99 %
FUSER LIFE	REMAINING 99 %
K TONER	5K = 99 % 3K = 98 %
C TONER	5K = 99 % 3K = 98 %
M TONER	5K = 99 % 3K = 99 %
Y TONER	5K = 99 % 3K = 98 %

Disable
Disable
Disable

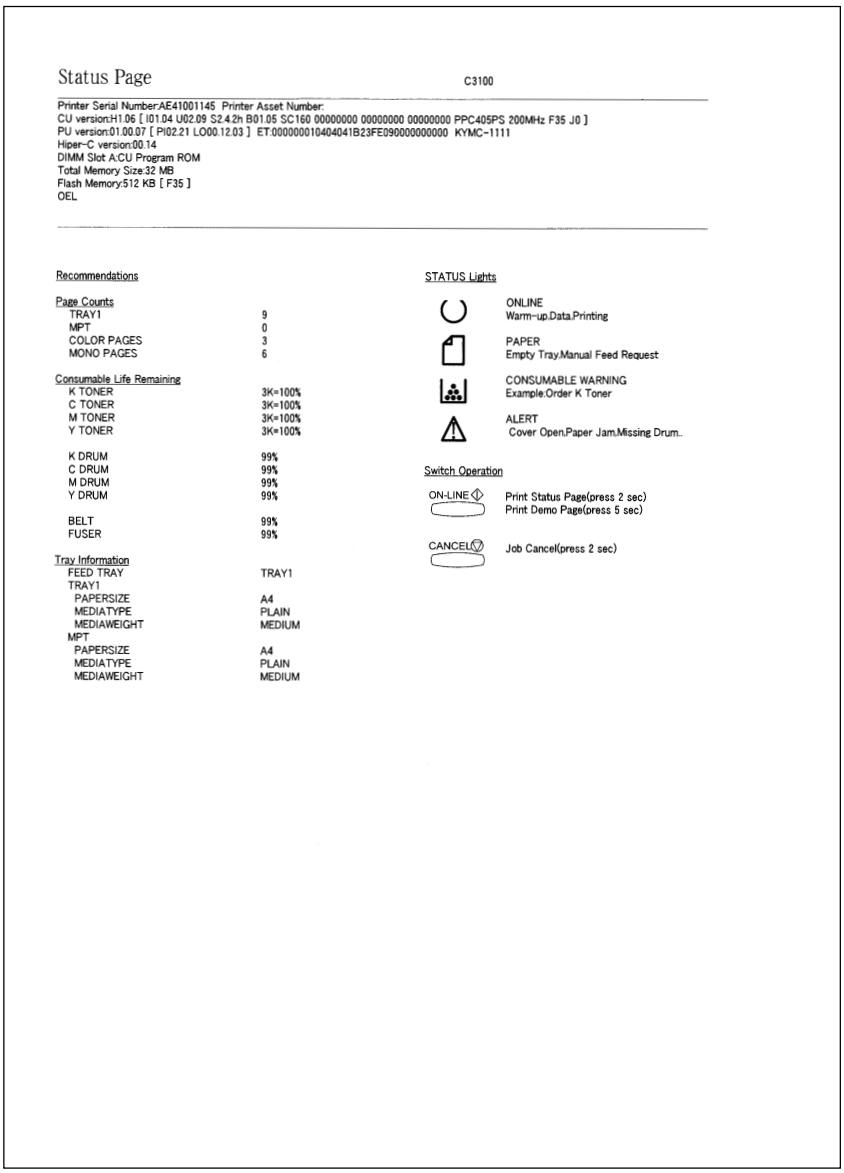
In case of C3200/C3100/C5510

(1) Set A4 papers in a tray.

(2) Press the "ONLINE"  switch for 2 seconds and release.

ONLINE LED (Green) blinks on and off and Menu map printing is started.
Only one page is printed.

(Sample)



Status Page C3100

Printer Serial Number:AE41001145 Printer Asset Number:
CU version:H1.06 [I01.04 U02.09 S2.4.2h B01.05 SC160 00000000 00000000 00000000 PPC405PS 200MHz F35 J0]
PU version:01.00.07 [PI02.21 LO00.12.03] ET:000000010404041B23FE090000000000 KYMC-1111
Hiper-C version:00.14
DIMM Slot A:CU Program ROM
Total Memory Size:32 MB
Flash Memory:512 KB [F35]
OEL

Recommendations

Page Counts

TRAY1	9
MPT	0
COLOR PAGES	3
MONO PAGES	6

Consumable Life Remaining

K TONER	3K=100%
C TONER	3K=100%
M TONER	3K=100%
Y TONER	3K=100%
K DRUM	99%
C DRUM	99%
M DRUM	99%
Y DRUM	99%
BELT	99%
FUSER	99%

Tray Information

FEED TRAY	TRAY1
TRAY1	
PAPERSIZE	A4
MEDIATYPE	PLAIN
MEDIAWEIGHT	MEDIUM
MPT	
PAPERSIZE	A4
MEDIATYPE	PLAIN
MEDIAWEIGHT	MEDIUM

STATUS Lights

ONLINE
Warm-up,Data,Printing

PAPER
Empty Tray,Manual Feed Request

CONSUMABLE WARNING
Example:Order K Toner

ALERT
Cover Open,Paper Jam,Missing Drum..

Switch Operation

ON-LINE
Print Status Page(press 2 sec)
Print Demo Page(press 5 sec)

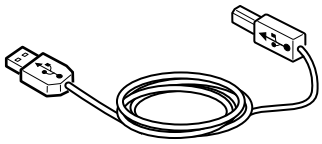
CANCEL
Job Cancel(press 2 sec)

3.7 Connection Procedures

<USB Connection>

Prepare a USB Cable.

Note! • No cables are included with the product. Prepare a cable.
• A cable to be prepared must be a USB cable.
• For connecting the printer in USB 2.0 Hi-Speed mode, use a Hi-Speed USB cable.



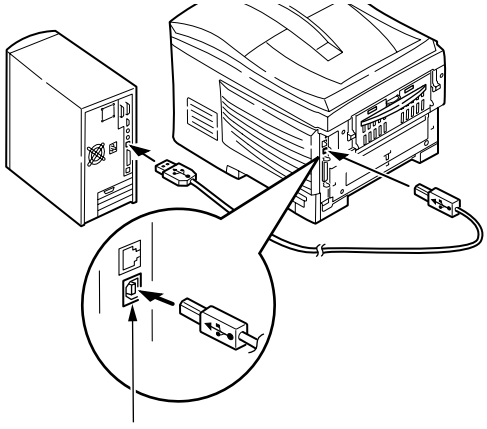
Power off Printer and Personal Computer

Memo The USB cable can be plugged in and off with the printer powered on. For the purpose of printer driver and USB driver installation to be performed later, power off the printer.

Connect Personal Computer and Printer

(1) Plug a prepared USB cable in the USB interface connector of the printer.
(2) Plug the cable in the USB interface connector of the personal computer.

Note! Be careful not to plug the USB cable in the network interface connectors; a problem with the printer may result.

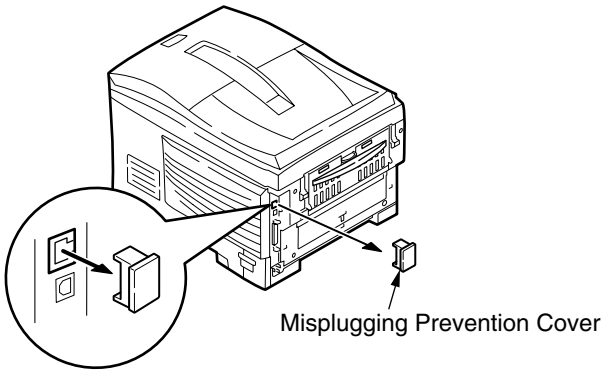


<LAN Cable Connection>

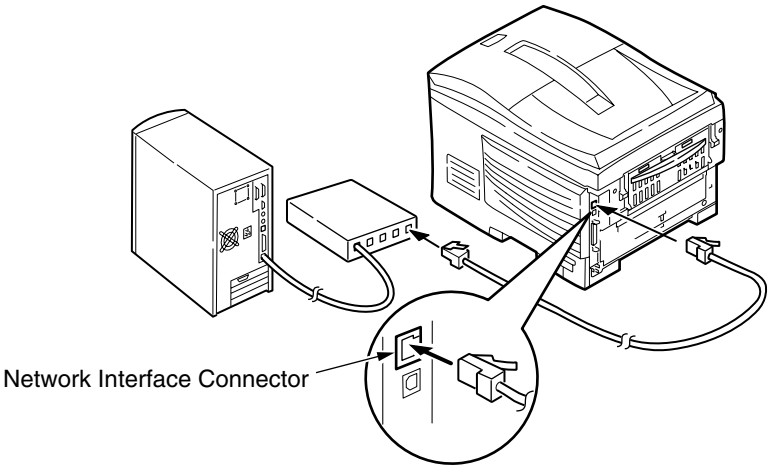
Prepare a LAN Cable and Power Off Printer and Personal Computer

Connect Personal Computer and Printer

(1) Remove the misplugging prevention cover fitted into the network interface connector of the printer.



(2) Plug the prepared Ethernet cable in the network interface connector of the printer.
(3) Plug the cable in the hub.

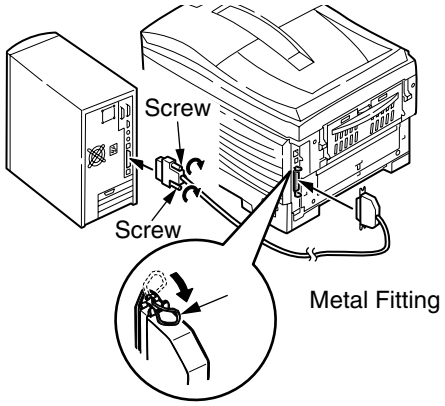


<Parallel Connection>

Prepare a Parallel Port Cable and Power Off Printer and Personal Computer

Connect Personal Computer and Printer

(1) Plug the prepared parallel port cable in the parallel interface connector of the printer, and secure the cable with the metal fitting.
(2) Plug the cable in the parallel interface connector of the computer, and secure the cable with the screw.



3.8 Checking of User Paper

Load the paper in printers used by users, select the settings at MEIDA TYPE and MEDIA WEIGHT and print MenuMap and Demo Page to check no occurrence of peeled off toner.

Types	Weight	Setting values of the operation panel		Setting *2 for [Media weight] of the printer driver
		Media weight	Media type *1	
Regular paper*3	55-64kg (64-74g/m^2)	Light	Light	Light
	65-89kg (75-104g/m^2)	Medium		Medium
	90-103kg (105-120g/m^2)	Heavy		Heavy
	104-172kg (121-200g/m^2)	Ultra heavy		Ultra heavy
Postcard*4	-	-	-	-
Envelope*4	-	-	-	-
Label paper	Less than 0.1-0.17mm	Thicker paper	Label paper	Label paper 1
	0.17-0.2mm	Thickest paper		Label paper 2
Transparency *5 film	-	-	Transparency film	Transparency film

*1 : [Light] is set as factory-default of media type.

*2 : Media weight and type can be set by the operation panel and the printer driver. The printer driver takes priority if it is set in the printer driver. Images are printed out by the setting of the operation panel when [Auto selection] is set in [Feed tray] or [Printer setting] is set in [Media weight].

*3 : The ream weight of the paper for duplex print is 55-90kg (64-105g/m^2).

4. PARTS REPLACEMENT

This section describes the procedure for replacing the parts, assemblies and units in the field. The replacing procedure is given for detachment. To attach, use the reverse procedure.
The Parts No. (①, ②, etc.) appearing in this manual vary from the numbers appearing in the diagram numbering of the Disassembly for Maintenance Configuration (********TL) and RSPL (********TR).

4.1 Precautions in Replacing Parts

(1) Before replacing the parts, be sure to remove the AC cord and the interface cable.

(a) To remove the AC cord, always use the following procedure.

i) Flip the power switch of the printer off (to "O").
ii) Pull the AC inlet plug of the AC cord out of the AC plug.
iii) Remove the AC cord and the interface cable from the printer.

⚠Warning	Risk of Electric Shock	⚡

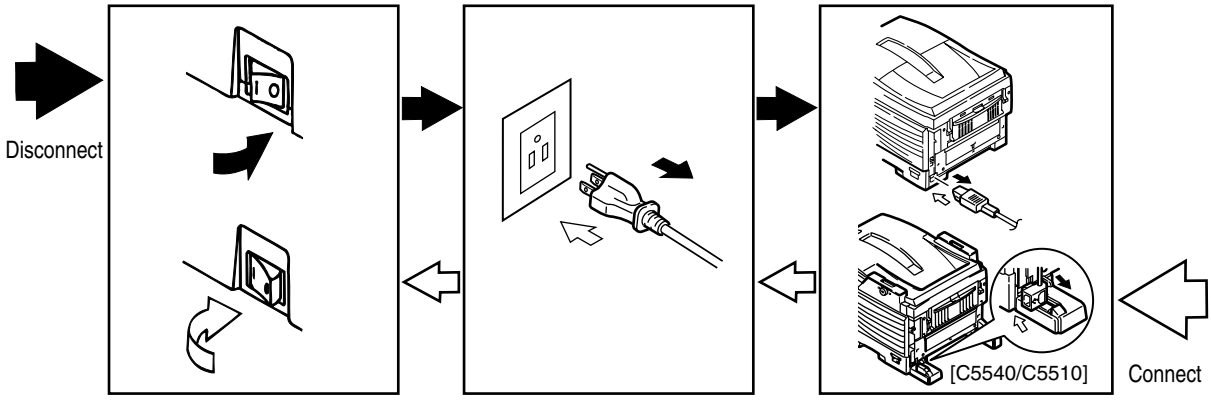
There is a risk of electric shock during replacement of the low voltage power supply.

Use insulating gloves or avoid direct contact with any conducting part of the power supply, and caution should be exercised during replacement.

The capacitor may take one minute to complete discharge after the AC cord is unplugged. Also, there is a possibility that the capacitor doesn't discharge because of a breakage of the PCB, etc., so remember the possibility of electric shock to avoid electric shock.

(b) To connect the printer again, always use the following procedure.

i) Connect the AC cord and the interface cable to the printer.
ii) Insert the AC inlet plug into the AC plug.
iii) Flip the power switch of the printer on (to "I").



(2) Do not disassemble the printer so long as it operates properly.

(3) Minimize the disassembly. Do not detach parts other than those shown in the replacing procedure.

(4) For maintenance, use designated tools.

(5) Follow the order instructed to disassemble the printer. Incorrect order may damage the parts.

(6) Small parts such as screws and collars tend to get lost, so temporarily place and fix them in their original positions.

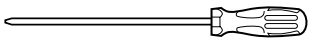
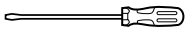
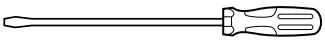
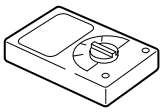
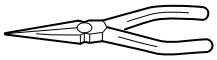
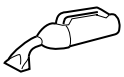
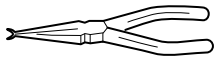
(7) When handling ICs and circuit boards such as microprocessors, ROMs and RAMs, do not use gloves that likely to have static.

(8) Do not place the printed circuit boards directly on the printer or the floor.

[Maintenance Tools]

Table 4-1-1 lists tools necessary to replace the printed circuit boards and the units.

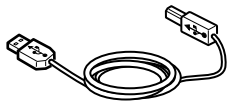
Table 4-1-1 Maintenance Tools

No.	Service Tools		Q' ty	Place of use	Remarks
1		No. 2-200 Philips screwdriver, Magnetized	1	3~5 mm screws	
2		No. 3-100 screwdriver	1		
3		No. 5-200 screwdriver	1		
4		Digital multimeter	1		
5		Pliers	1		
6		Handy cleaner	1		Reter to the following note.
7		LED Head cleaner P/N 4PB4083-2248P001	1	Cleans LED head	
8		E-ring pliers	1		

Note! Use a vacuum cleaner dealing with toner. Using a common vacuum cleaner may cause fire.

Required tools for the maintenance utility are shown in Table 4-1-2.

Table 4-1-2 Maintenance Tools

No.	Service Tools		Q' ty	Place of use	Remarks
1		Laptop computer	1		
2		USB cable	1		

4.2 Part Replacement Procedures

This section describes the procedures for replacing the parts and assemblies shown in the following disassembly chart:

4.2.1 Left Side Cover

Except C5540/C5510

(1) Open the top cover ①.

(2) Open the feeder unit ②.

(3) Remove the screw (golden) ③ to detach the left side cover ④.(Tool No.1)

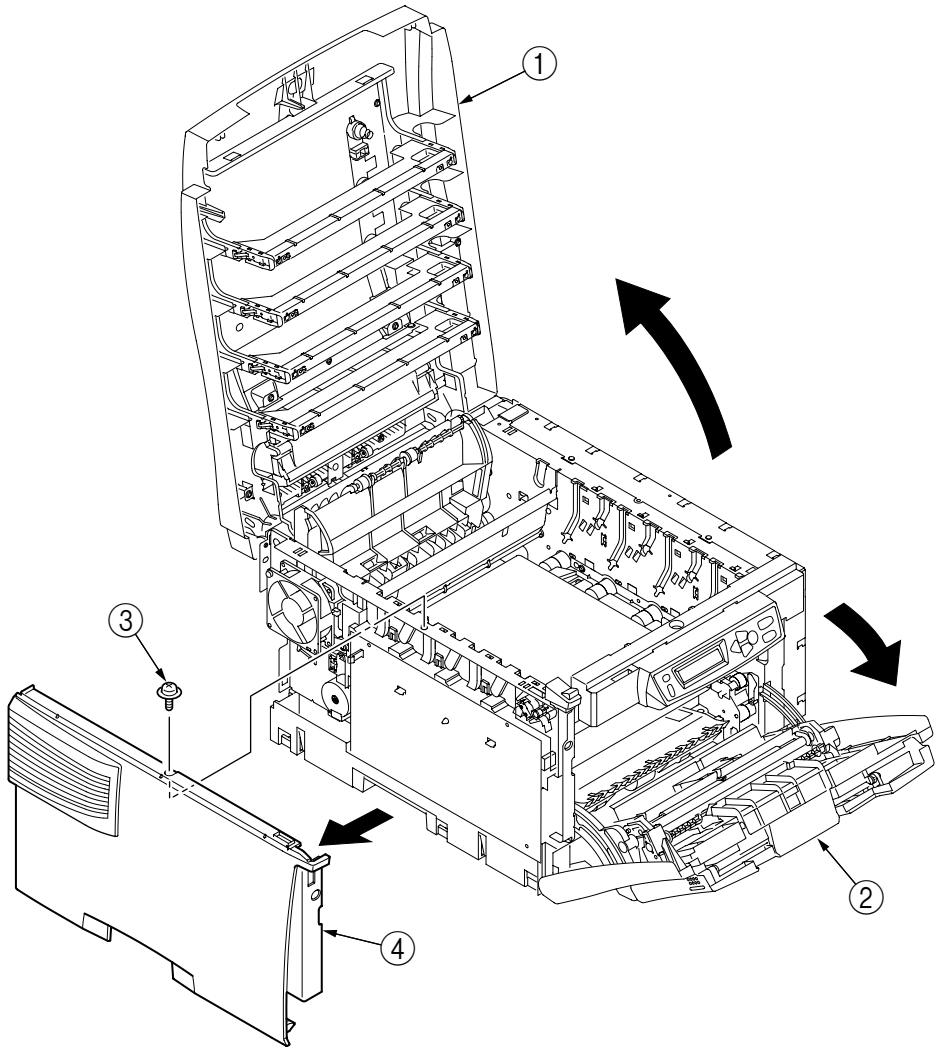


Figure 4-2-1-1 Left Side Cover

C5540/C5510

(1) Open the top cover ①.

(2) Open the feeder unit ②.

(3) Remove the stay-cover-L ③. (Tool No.2)

(4) Remove the E-ring ④. (Tool No.2)

(5) Remove the shaft ⑤.

(6) Remove the Guide-Damper-L ⑥ and Spring ⑦.

(7) Remove the screw (golden) ⑧ and then the plate-lower-L ⑨.

(8) Remove the screw (golden) ⑩ to detach the left side cover ⑪.(Tool No.1)

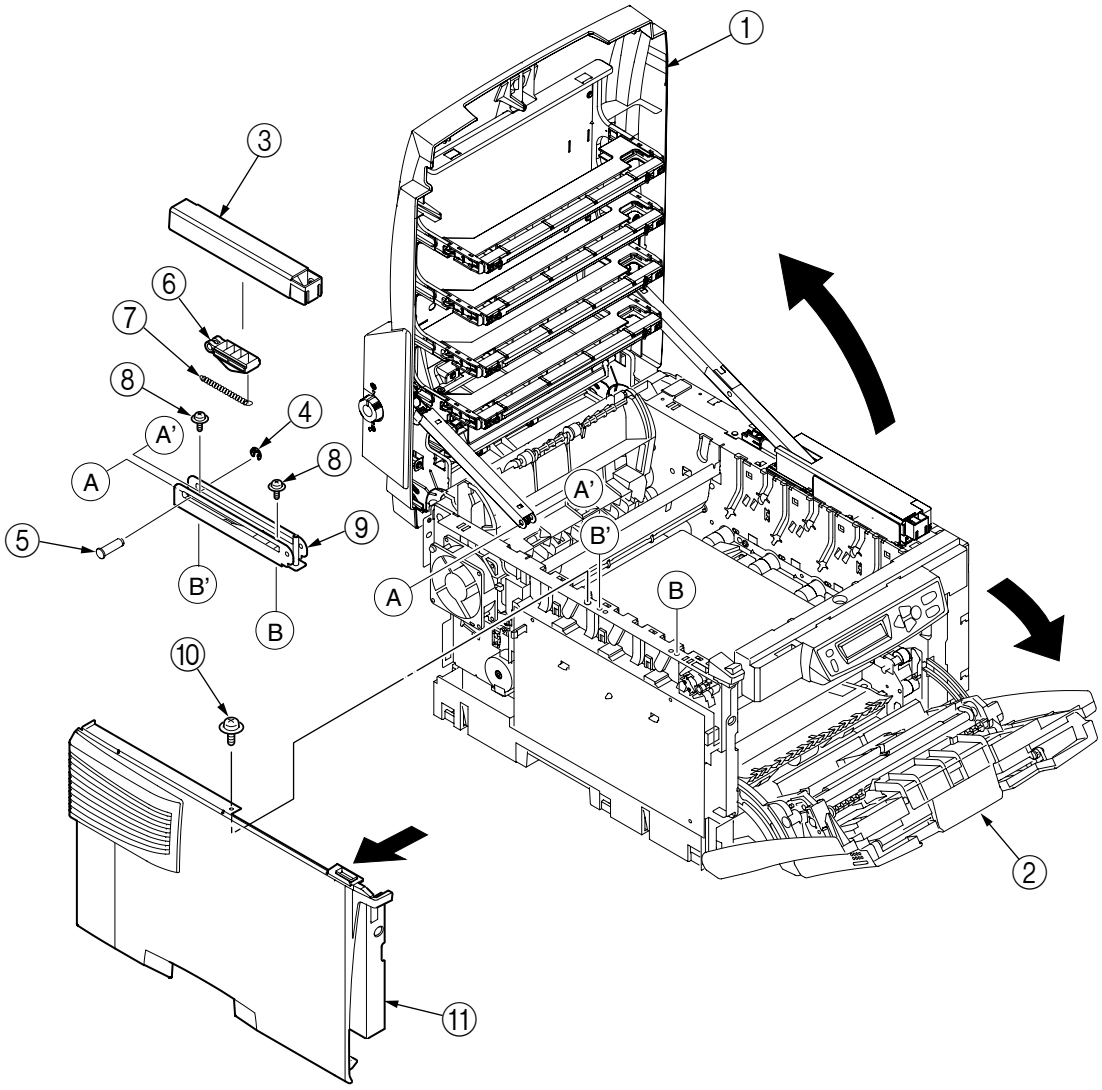


Figure 4-2-1-2 Left Side Cover

4.2.2 Right Side Cover

Except C5540/C5510

(1) Open the top cover ①.

(2) Open the feeder unit ②.

(3) Loosen the screw ③ to detach the right side cover ④.(Tool No.1)

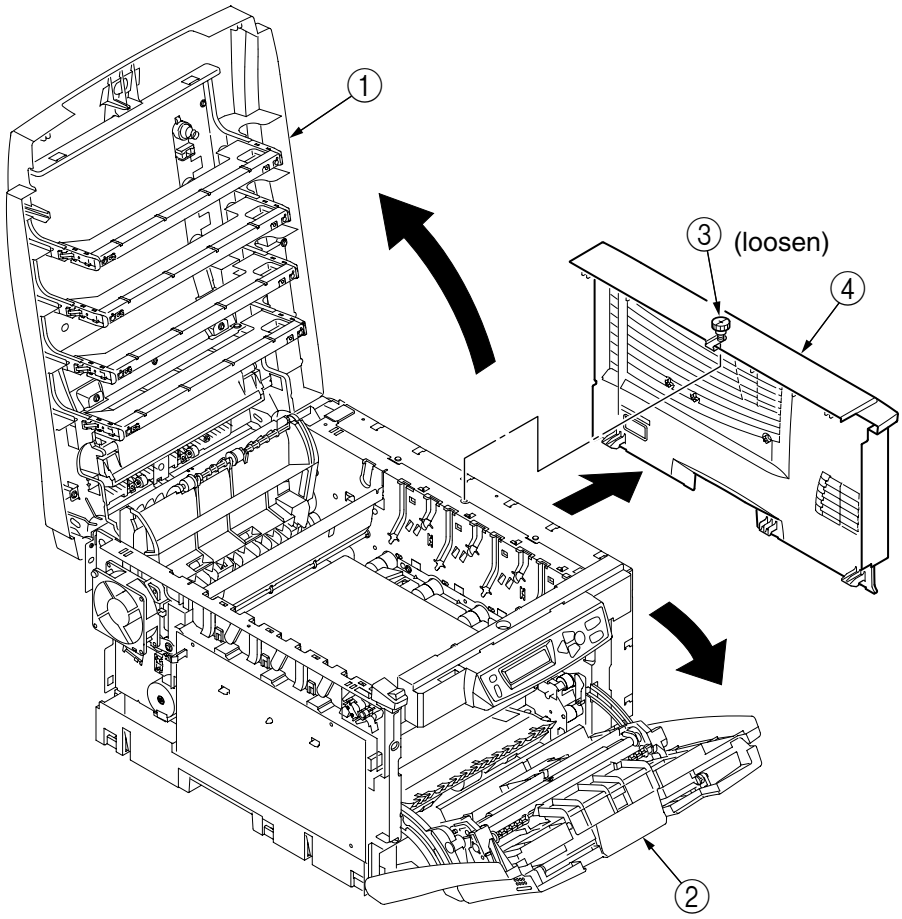


Figure 4-2-2-1 Right Side Cover

C5540/C5510

(1) Open the top cover ①.

(2) Open the feeder unit ②.

(3) Loosen the screw ③ to detach the right side cover ④.(Tool No.1)

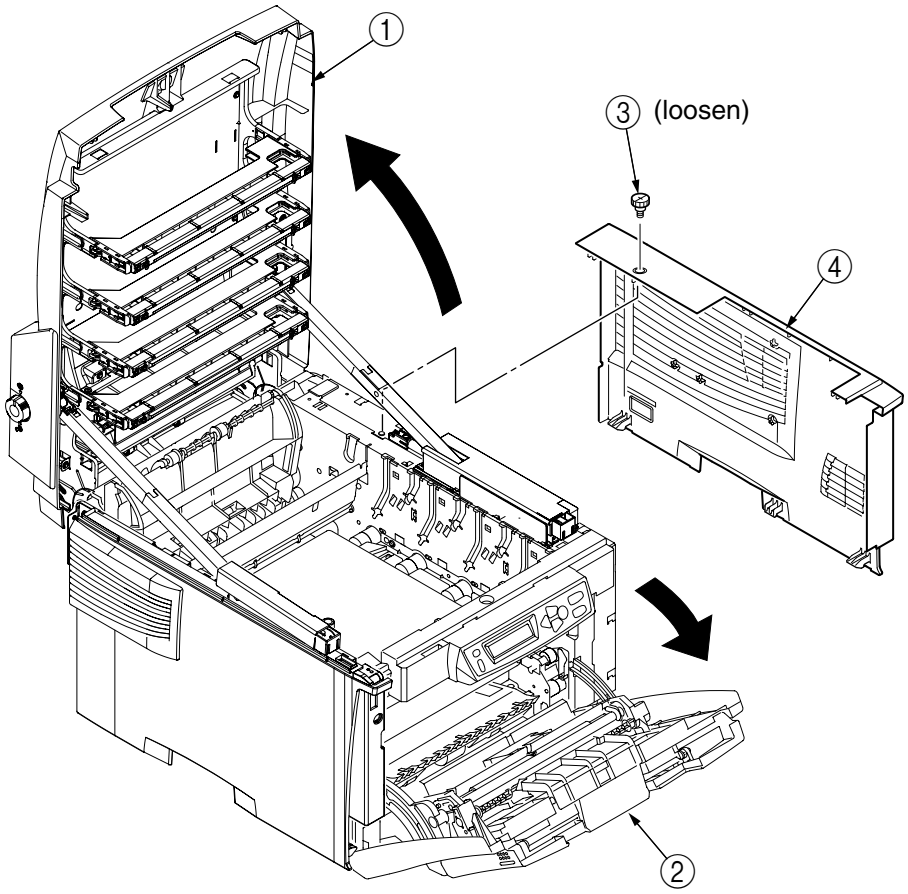


Figure 4-2-2-2 Right Side Cover

4.2.3 Face-Up Tray

(1) Open the face-up tray ① in the direction of the arrow, and disengage it at its two places to detach it with bowing down.

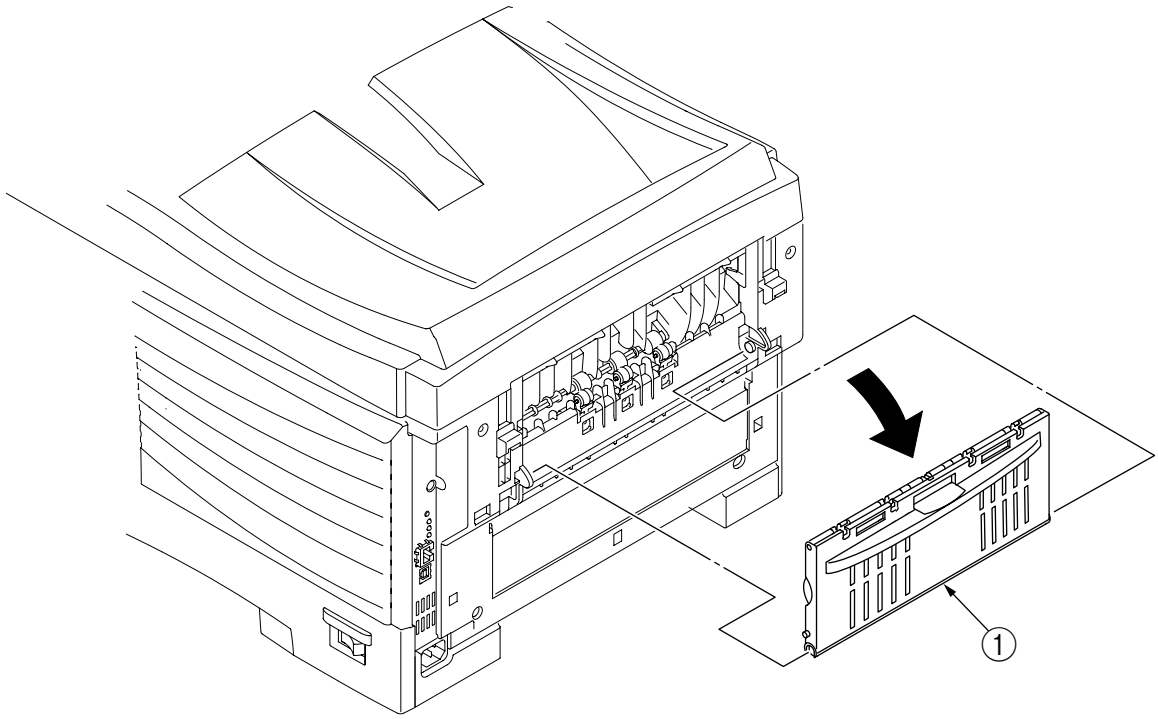


Figure 4-2-3 Face-Up Tray

4.2.4 Rear Cover

(1) Slide out the face-up tray.

(2) Remove the two screws (golden) ①.(Tool No.1)

(3) As shown in Fig.2, insert a flat- blade driver (Tool No.3) into the hole A to disengage the claw A, at each of the two places.

(4) Disengage the two claws B and pull in an arc the rear cover ② in the direction of the allow A.

(5) As shown in Fig.3, push the lower part of the rear cover ② in the direction of the allow B to disengage the three claws C, then detach the rear-cover.

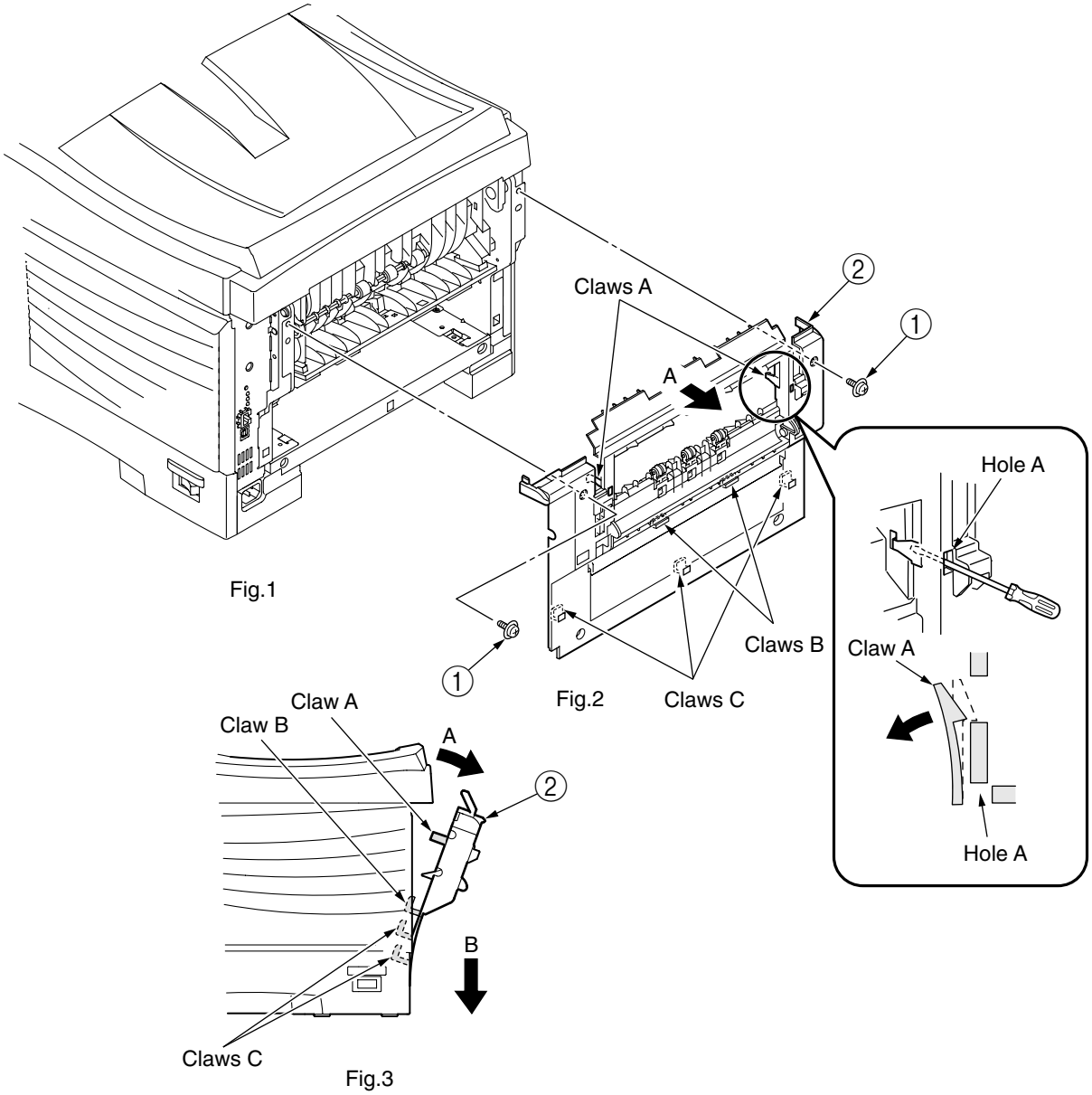


Figure 4-2-4 Rear Cover

4.2.5 LED Assy / LED Assy-Springs

(1) Open the top cover ①.

(2) As shown in Fig.2, push in the direction of the allow after removing a cable. Then, disengage the hook A first and the hook B to detach LED Assy ② (the two springs ③ become detached together with the LED Assy ②).

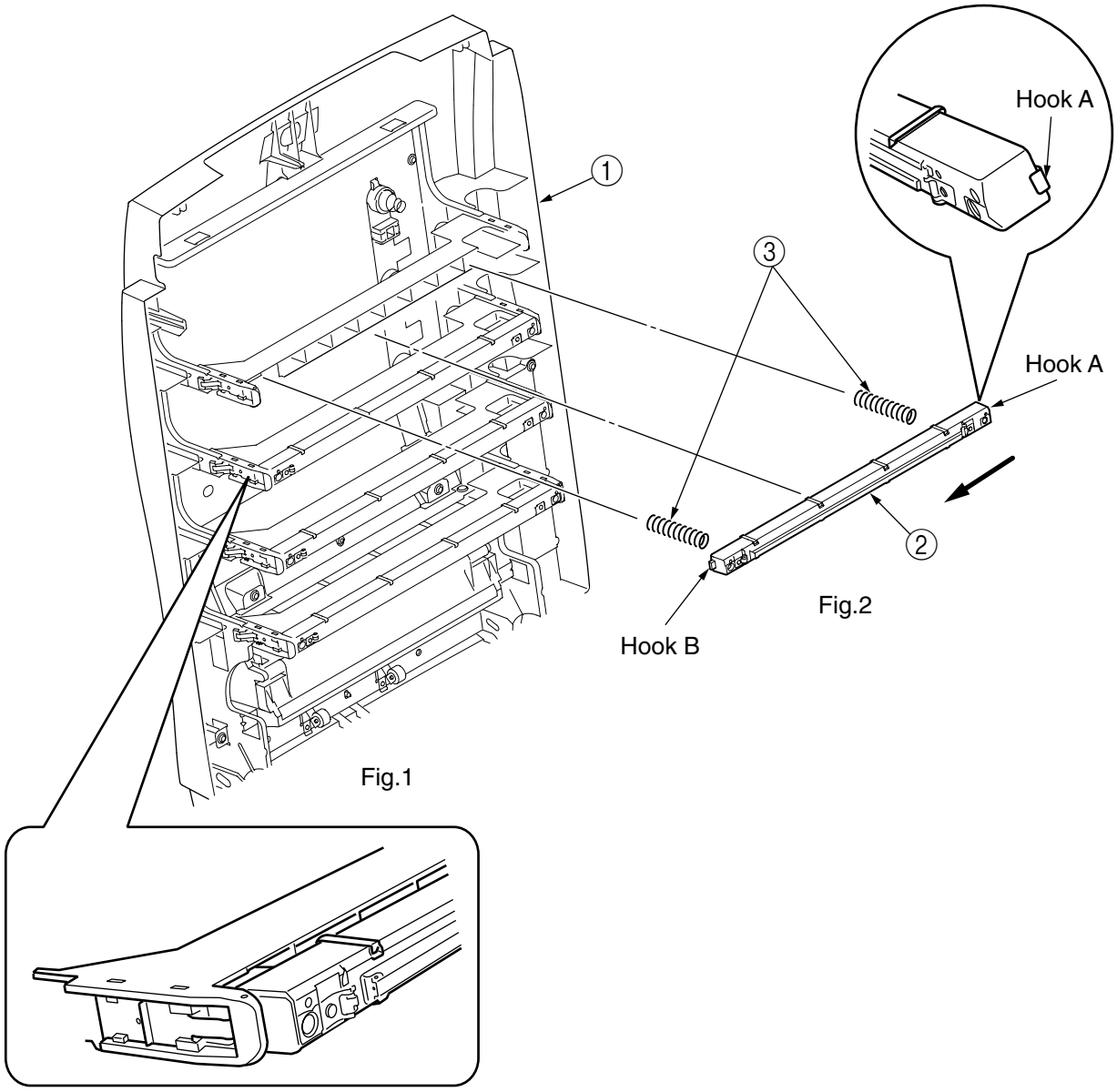


Figure 4-2-5 LED Assy / LED Assy-Springs

4.2.6 Controller PCB

C5450/C5400

(1) Remove the Print Engine Controller PCB (see section 4.2.7).

(2) Remove the screw ① and then the head cable ②.(Tool No.1)

(3) Remove the eight screws (golden) ③, then detach the controller PCB ④(SPA-4 PCB). (Tool No.1)

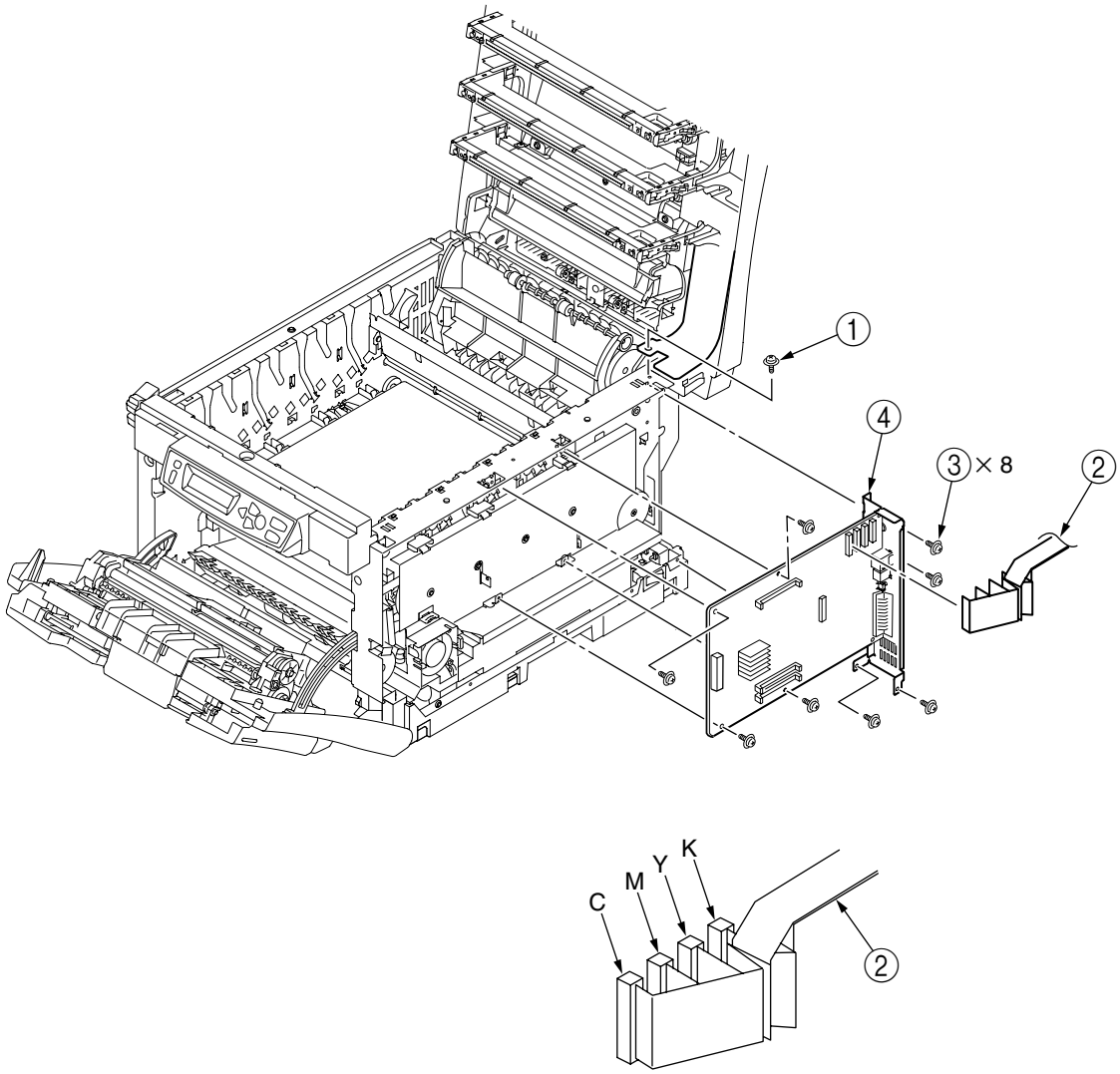


Figure 4-2-6-1 Controller PCB (C5450/C5400)

* After the controller PCBs of C5450 printers are replaced with new ones, the model names of the printers must be programmed and PJL must be downloaded onto the new ones (controller PCBs are programmed with the printer model name C5400 by default).
  Download file name : 42678801FX05.bin

C5540

(1) Remove the Print Engine Controller PCB (see section 4.2.7).

(2) Remove the screw ① and then the head cable ②.(Tool No.1)

(3) Remove the eight screws (golden) ③, then detach the controller PCB ④(SPA-4 PCB)Plate-Inlet ⑤.(Tool No.1)

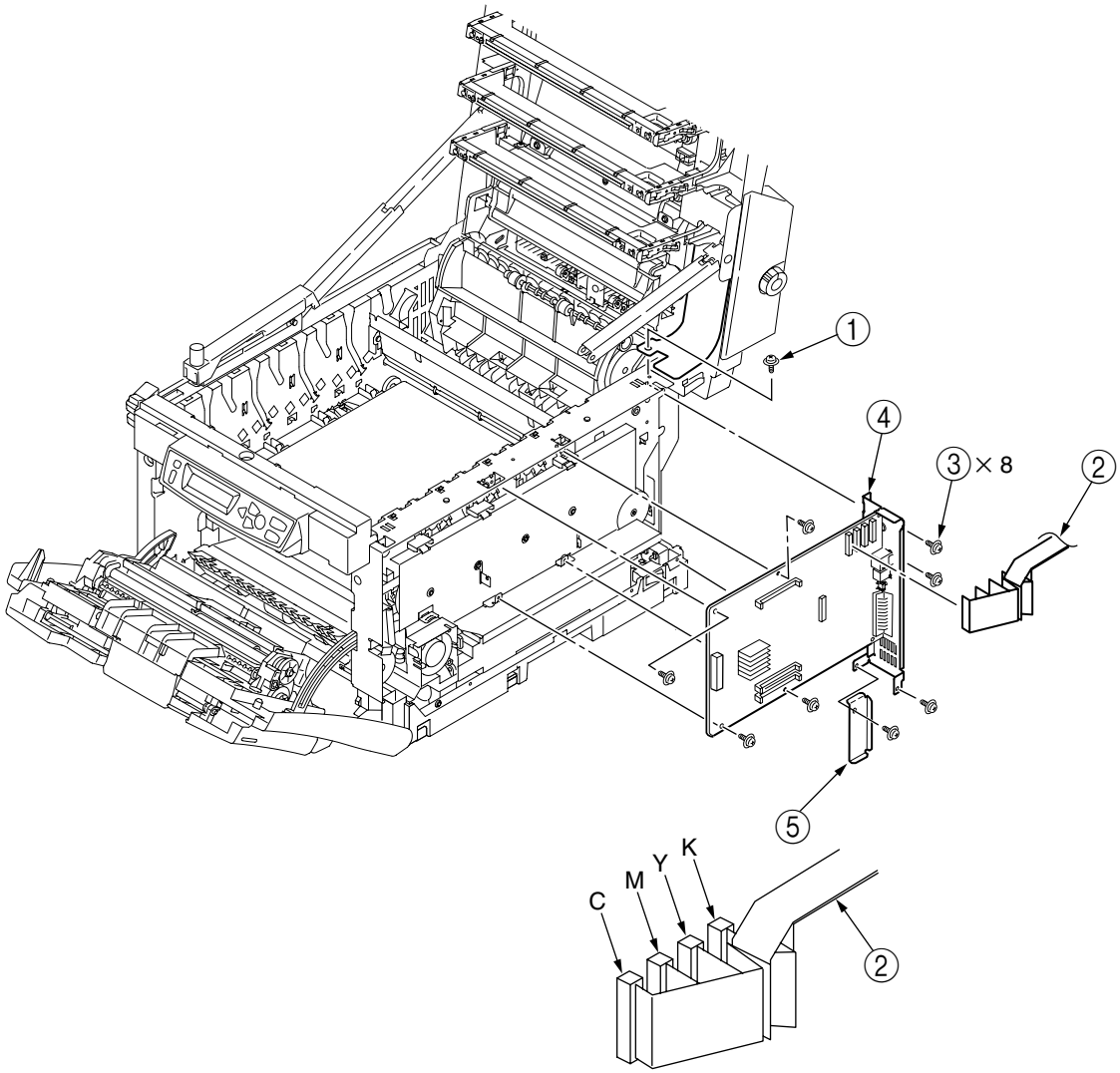


Figure 4-2-6-2 Controller PCB (C5540)

C5250/C5200/C5150/C3200n/C3200/C3100

(1) Open the top cover.

(2) Remove the right side cover (see section 4.2.2).

(3) Unscrew the three screws (golden) ①, disengage the claws A and remove the plate-shield assy (GDI) ②.(Tool No.1)

(4) Remove the screw (golden) ③ and then the head cable ④.(Tool No.1)

(5) Remove the six screws (golden) ⑤ and the cable ⑥, then detach the controller PCB ⑦.

(Tool No.1)

C3100	:ARC-2 or SPY-2 PCB
C5250/C5200	:ARC-3 or SPY-3 PCB
C5150	:ARC-4 or SPY-4 PCB
C3200	:SPY-5 PCB
C3200n	:SPY-6 PCB

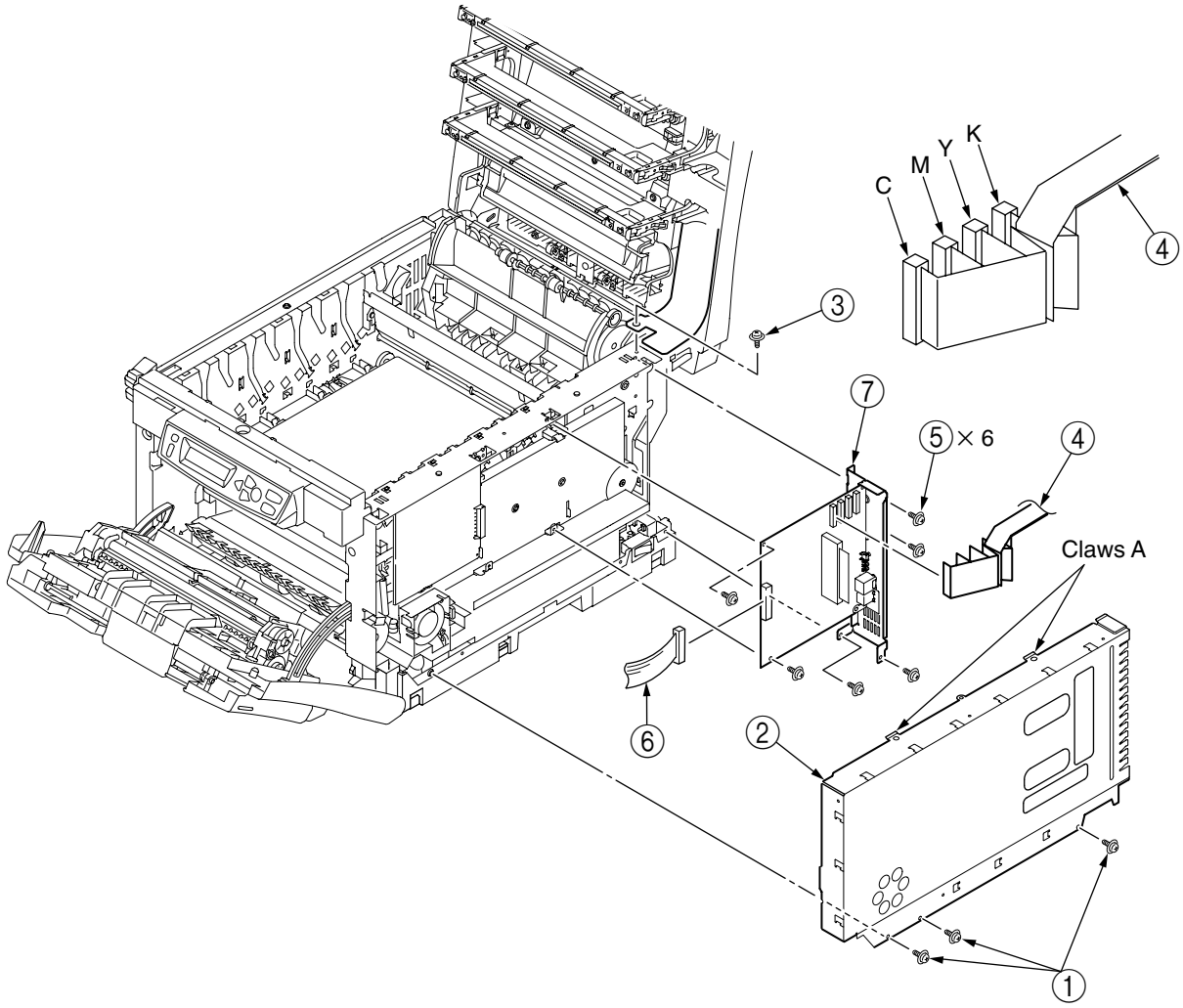


Figure 4-2-6-3 Controller PCB (C5250/C5200/C5150/C3200n/C3200/C3100)

* After the controller PCBs of C5250 printers are replaced with new ones, the model names of the printers must be programmed and PJL must be downloaded onto the new ones (controller PCBs are programmed with the printer model name C5200 by default).
Download file name : 42678801FX04.bin

C5510

(1) Open the top cover.

(2) Remove the right side cover (see section 4.2.2).

(3) Remove the stay-cover-R ①. (Tool No.2)

(4) Remove the E-ring ②. (Tool No.2)

(5) Remove the shaft ③.

(6) Remove the two screws (golden) ④ and then the Lower-Assy-R ⑤ and spring ⑥.

(7) Remove the spacer-lower-R ⑦.

(8) Unscrew the three screws (golden) ⑧, disengage the claws A and remove the plate-shield assy (GDI) ⑨.(Tool No.1)

(9) Remove the screw (golden) ⑩ and then the head cable ⑪.(Tool No.1)

(10) Remove the six screws (golden) ⑫ and the cable ⑬, then detach the controller PCB ⑭.

(Tool No.1)

C5510 :SPY-2 PCB

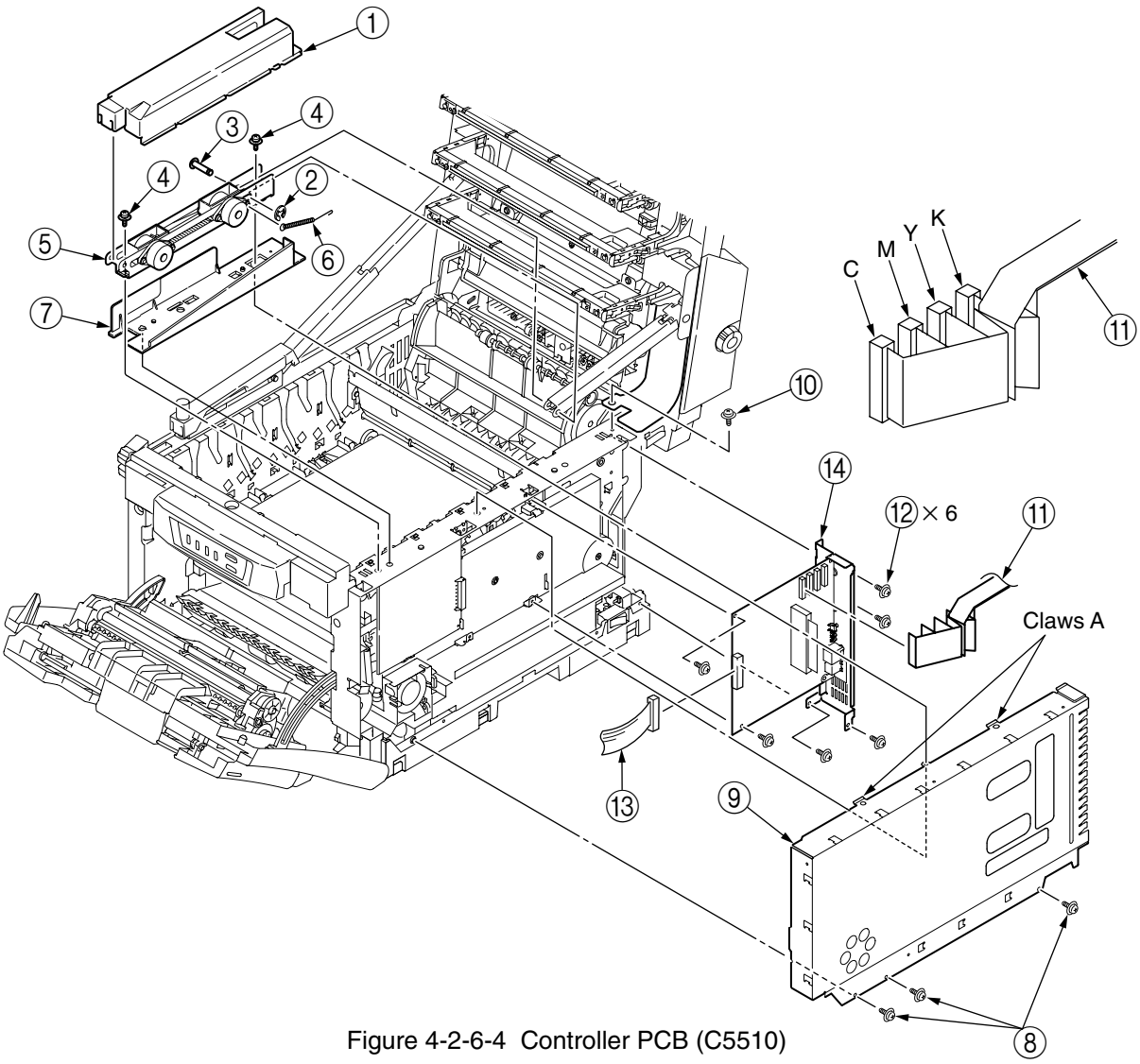


Figure 4-2-6-4 Controller PCB (C5510)

4.2.7 Print Engine Controller PCB

C5450/C5400

(1) Open the top cover.

(2) Remove the right side cover (see section 4.2.2).

(3) Remove the connector ①, and disengage the two hooks A of to detach the FAN (CU) ②.

(4) Remove the three screws (golden) ③ disengage the claws B and remove the plate-shield Assy (PCL) ④.(Tool No.1)

(5) Remove the three screws (golden) ⑤ and all the connectors to detach the print engine controller PCB ⑥.(Tool No.1)

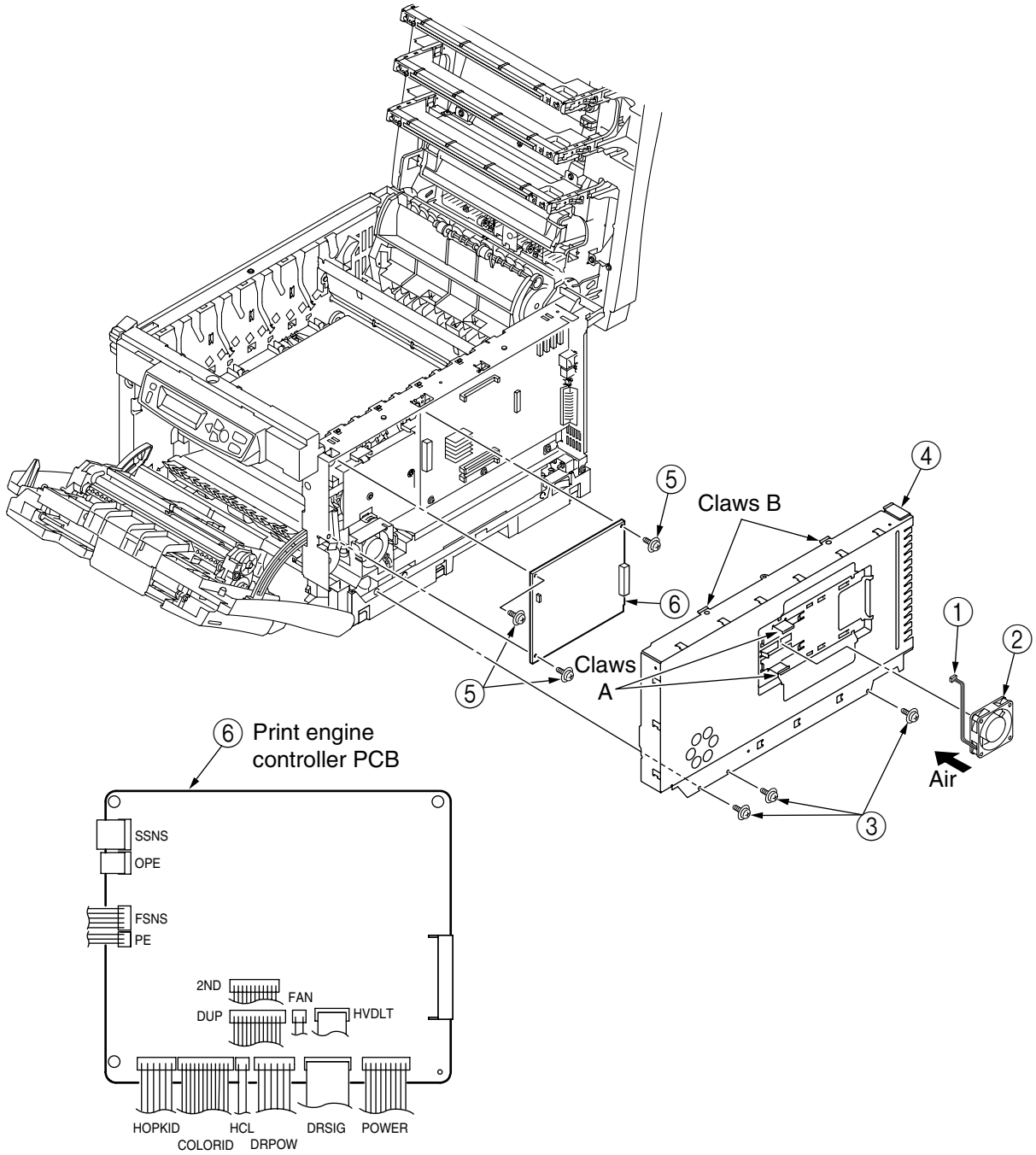


Figure 4-2-7-1 Print Engine Controller PCB (C5450/C5400)

C5540

(1) Open the top cover.

(2) Remove the right side cover (see section 4.2.2).

(3) Remove the stay-cover-R ①. (Tool No.2)

(4) Remove the E-ring ②. (Tool No.2)

(5) Remove the shaft ③.

(6) Remove the two screws (golden) ④ and then the Lower-Assy-R ⑤ and spring ⑥.

(7) Remove the spacer-lower-R ⑦.

(8) Remove the connector ⑧, and disengage the two hooks A of to detach the FAN (CU) ⑨.

(9) Remove the three screws (golden) ⑩ disengage the claws B and remove the plate-shield Assy (PCL) ⑪.(Tool No.1)

(10) Remove the three screws (golden) ⑫ and all the connectors to detach the print engine controller PCB ⑬.(Tool No.1)

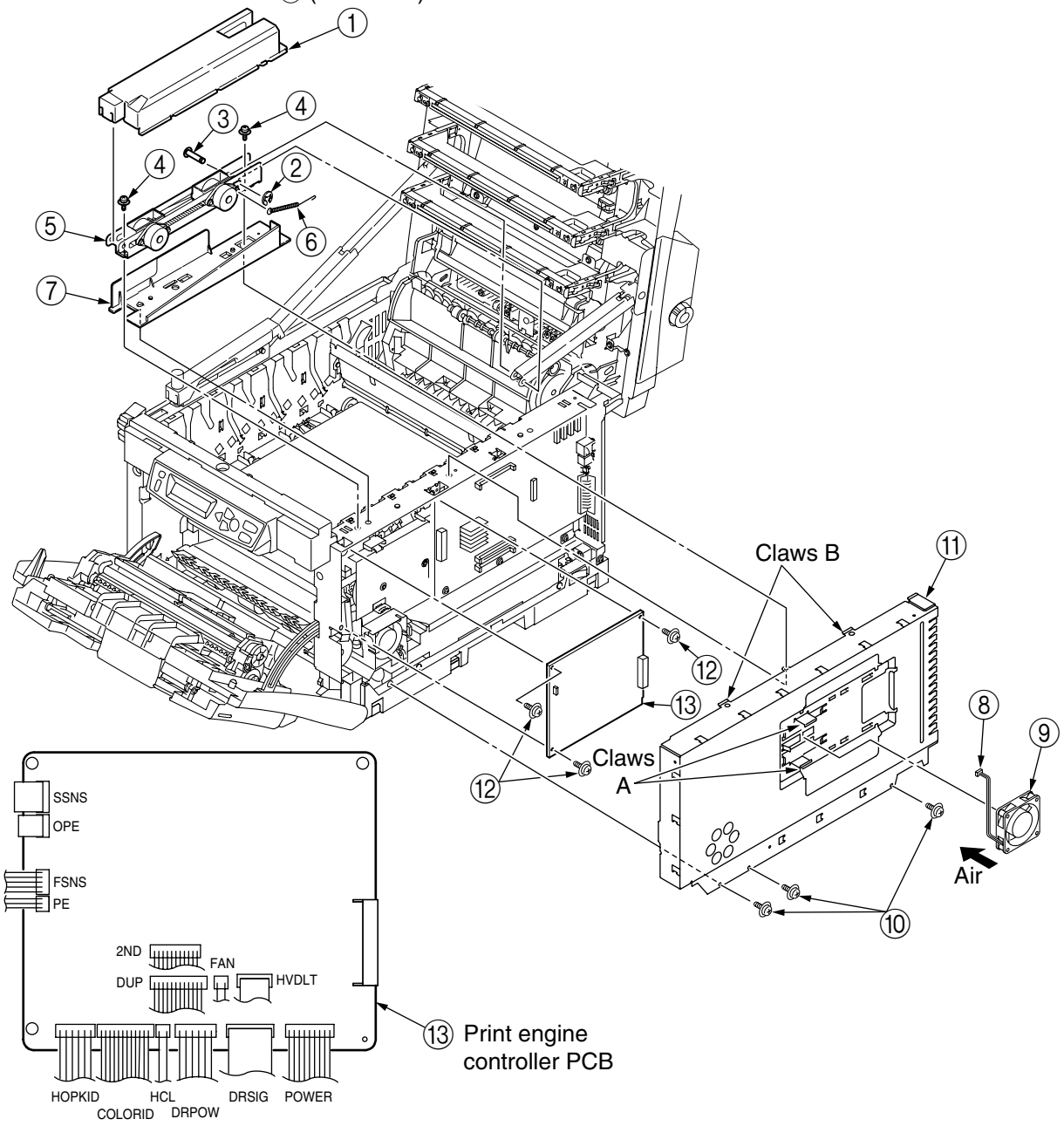


Figure 4-2-7-2 Print Engine Controller PCB (C5540)

C5250/C5200/C5150/C3200n/C3200/C3100

(1) Remove the plate-shield Assy (GDI) [see section 4.2.6, steps (1) to (3)].

(2) Remove the three screws (golden) ① and all the connectors to detach the print engine controller PCB ②.(Tool No.1)

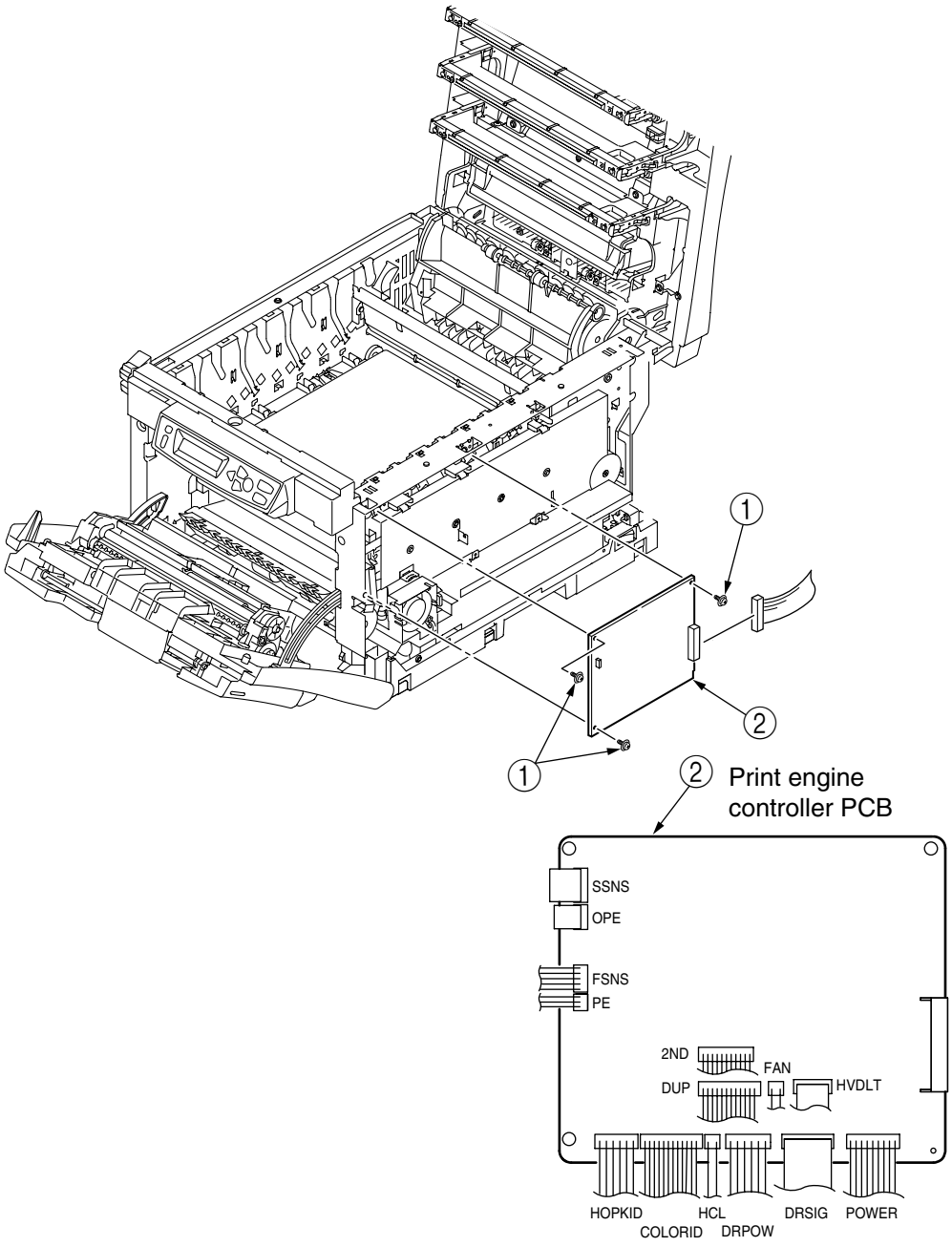


Figure 4-2-7-3 Print Engine Controller PCB (C5250/C5200/C5150/C3200n/C3200/C3100)

C5510

(1) Remove the plate-shield Assy (GDI) [see section 4.2.6, steps (1) to (3)].

(2) Remove the three screws (golden) ① and all the connectors to detach the print engine controller PCB ②.(Tool No.1)

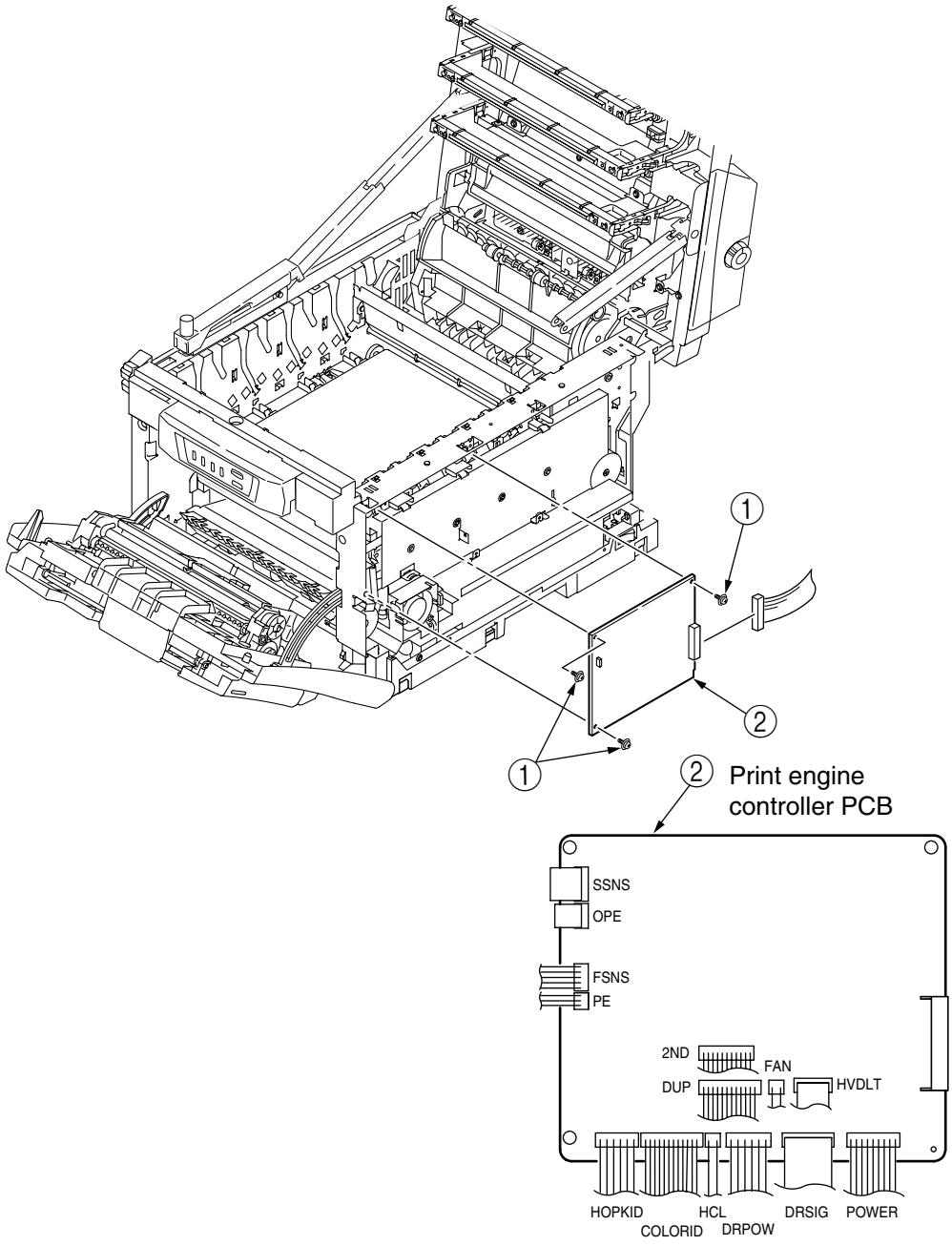


Figure 4-2-7-4 Print Engine Controller PCB (C5510)

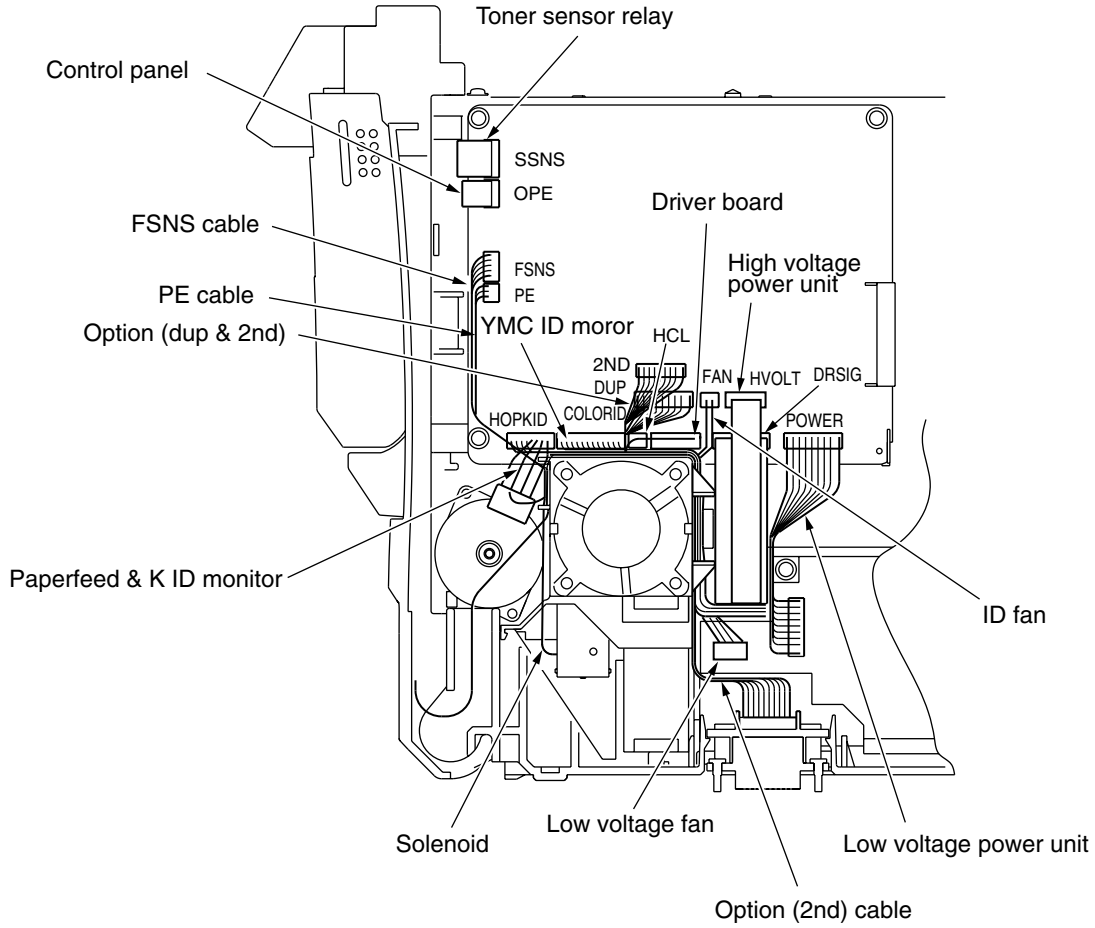


Figure 4-2-7-5 Print Engine Controller Board Cable Route

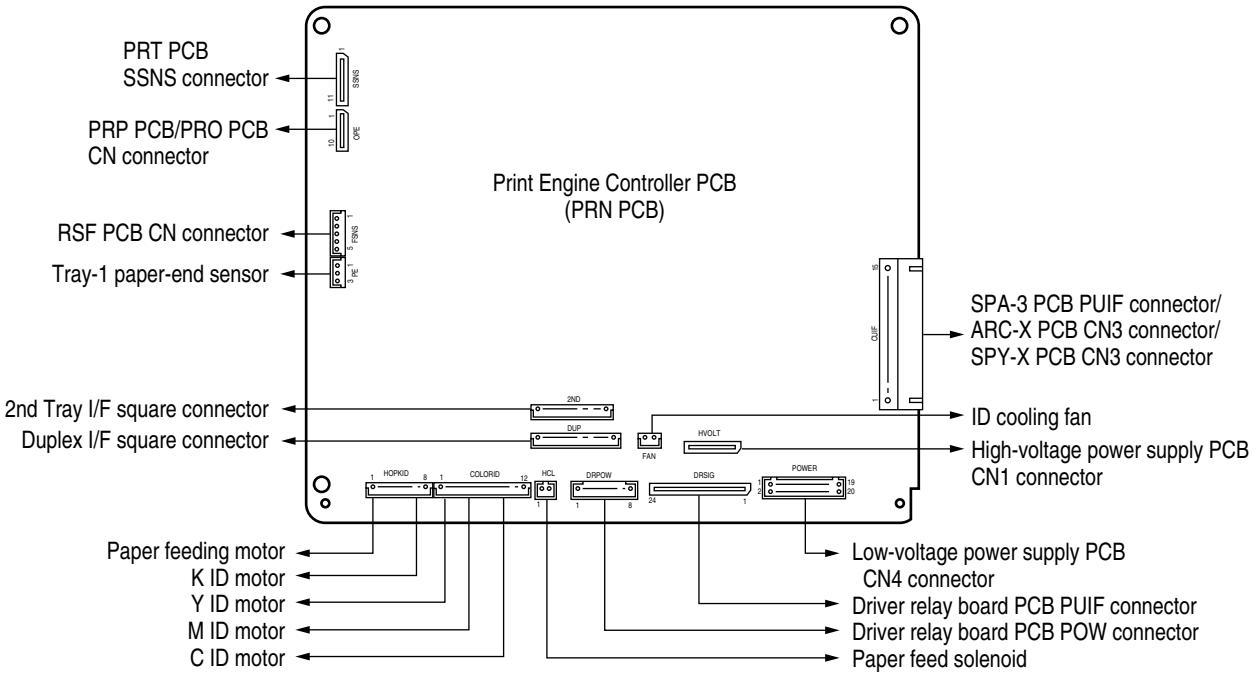


Figure 4-2-7-6 Print Engine Controller Board Connection Figure

4.2.8 Top Cover Assy

Except C5540/C5510

(1) Remove the left side cover (see section 4.2.1).

(2) Remove the right side cover (see section 4.2.2).

(3) Remove the rear side cover (see section 4.2.4).

(4) Remove the plate-shield Assy (GDI) [see section 4.2.6, step (2)].

(5) Remove the LED head cable.

(6) Remove the two E-shaped rings ① and the two Spring-Torsions ②, then detach the top cover Assy ③.(Tool No.8)

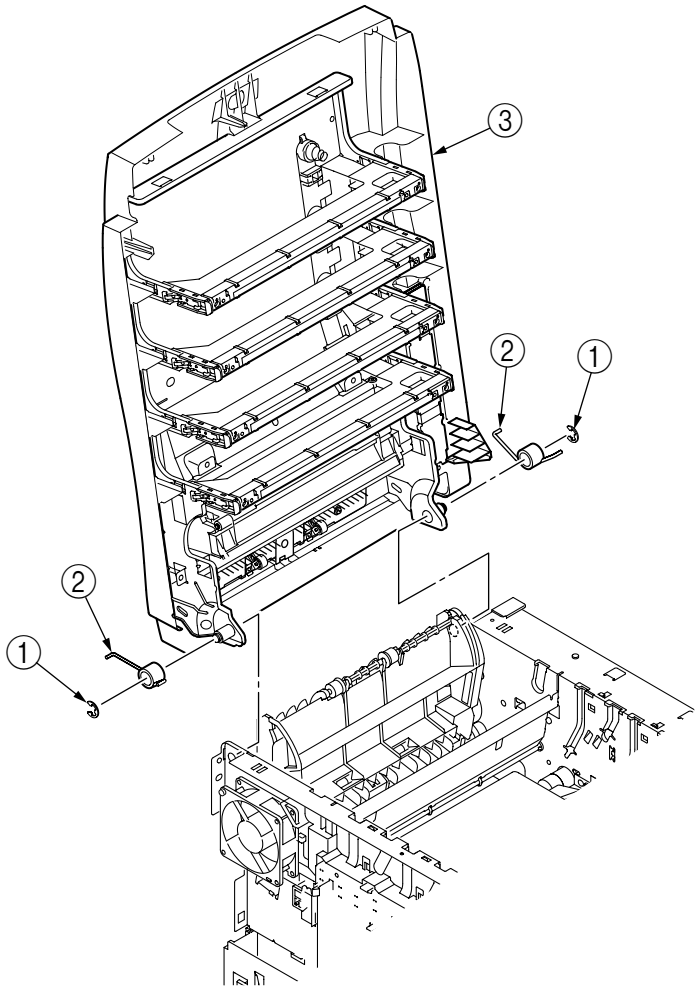


Figure 4-2-8-1 Top Cover Assy

C5540/C5510

(1) Remove the left side cover (see section 4.2.1).

(2) Remove the right side cover (see section 4.2.2).

(3) Remove the rear side cover (see section 4.2.4).

(4) Remove the plate-shield Assy (GDI) [see section 4.2.6, step (2)].

(5) Remove the LED head cable.

(6) Remove the two screws (black) ① to remove the stay-Assy-R ②.

(7) Remove the two screws (black) ③ to remove the stay-Assy-L ④.

(8) Remove the two E-shaped rings ⑤ and the two Spring-Torsions ⑥, then detach the top cover Assy ⑦.(Tool No.8)

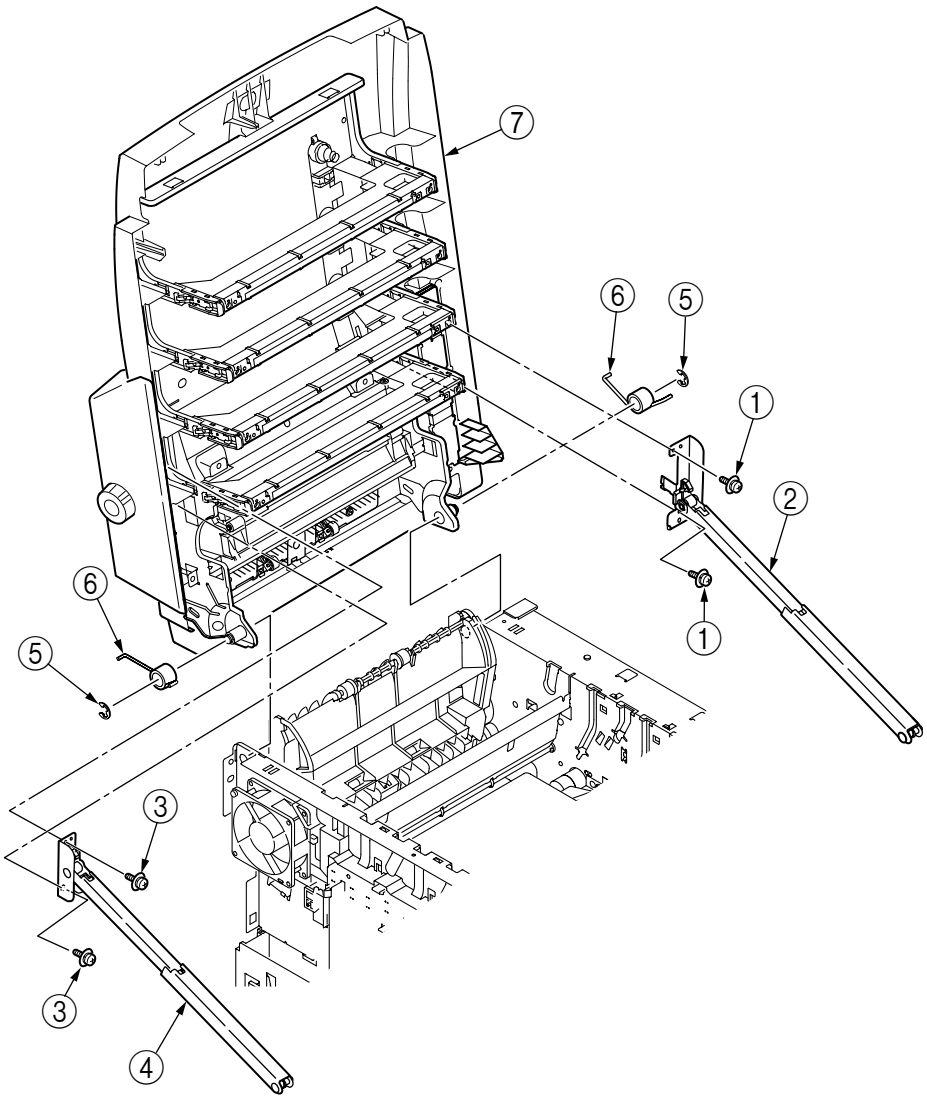


Figure 4-2-8-2 Top Cover Assy

4.2.9 Top Cover

Except C5540/C5510

(1) Open the top cover assy.

(2) Remove the ten screws (black) ① to remove the guide-paper eject ②.(Tool No.1)

(3) Remove the ten screws (black) ③ to detach the cable cover ④ and the top cover ⑤. (Tool No.1)

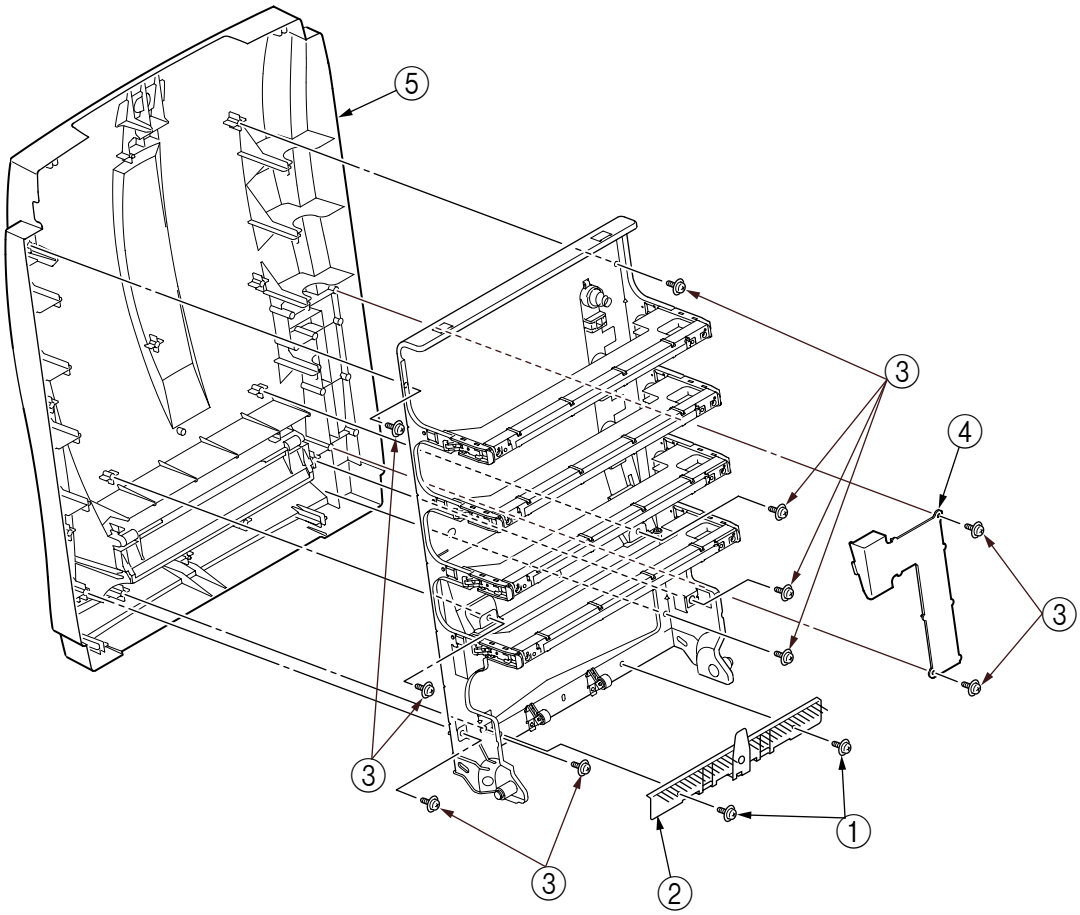


Figure 4-2-9-1 Top Cover

C5540/C5510

(1) Open the top cover assy.

(2) Remove the ten screws (black) ① to remove the guide-paper eject ②.(Tool No.1)

(3) Remove the ten screws (black) ③ to detach the cable cover ④ and the top cover ⑤. (Tool No.1)

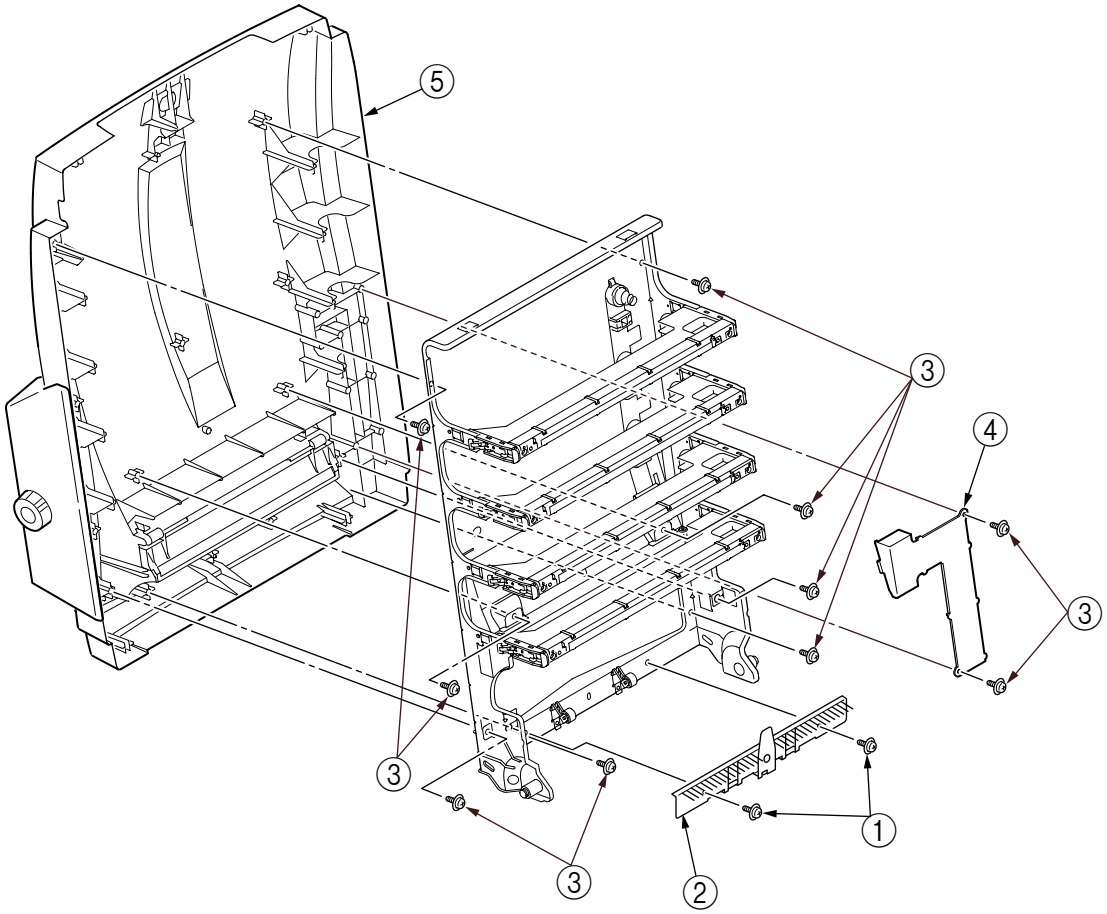


Figure 4-2-9-2 Top Cover

4.2.10 Controller Panel Assy

(1) Open the top cover.

(2) Open the feeder unit.

(3) Remove the right side cover (see section 4.2.3).

(4) Remove the plate-shield Assy [see section 4.2.7, step (2)].

(5) Make Control Panel Assy connector removal.

(6) Remove the four screws (golden) ①, then detach the Control Panel Assy ②.(Tool No.1)

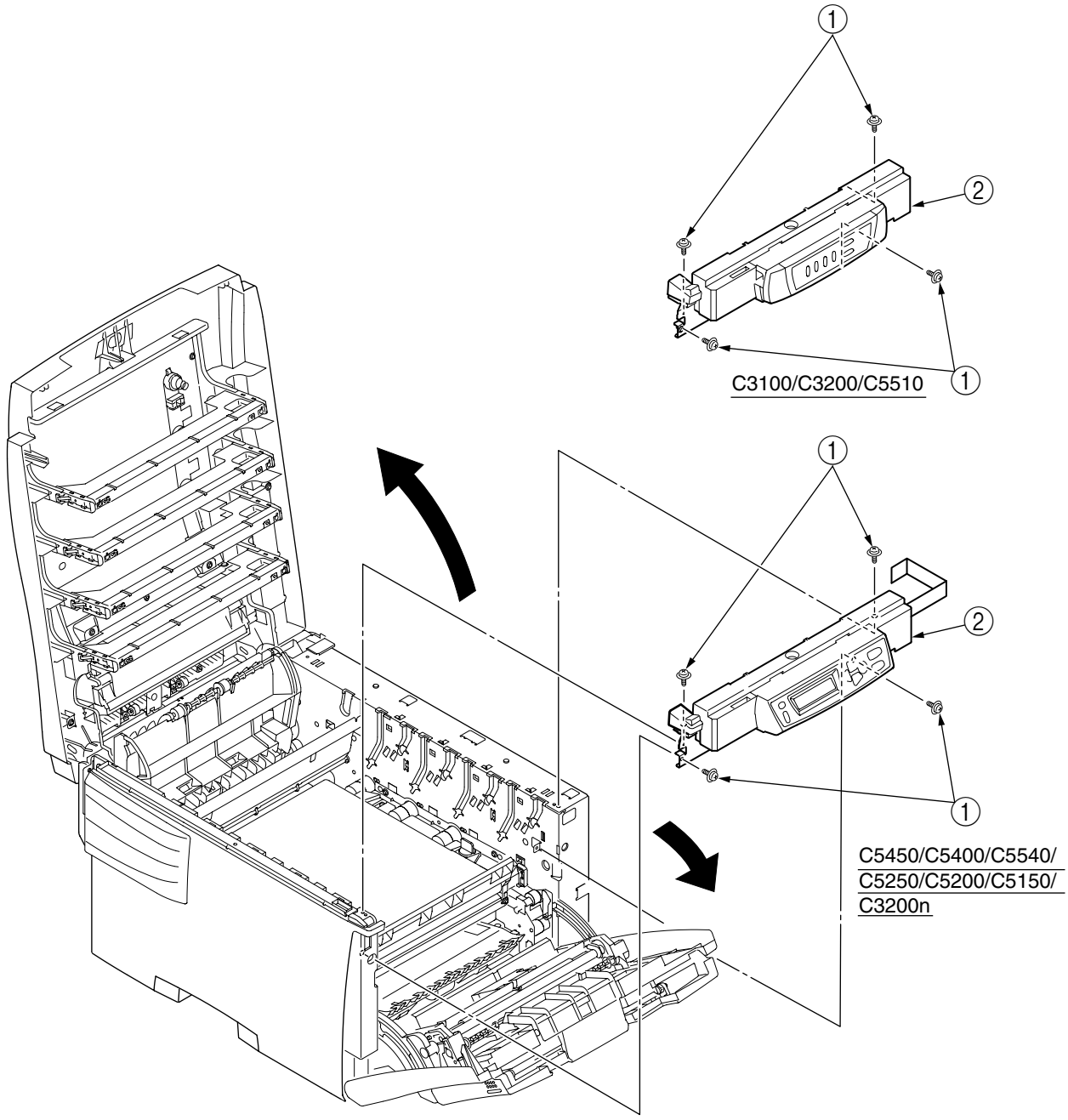


Figure 4-2-10 Control Panel Assy

4.2.11 Board-PRP(C5450/C5400/C5540/C5250/C5200/C5150/C3200n)/Board-PRO(C3200/C3100/C5510) / Top Cover Handle

(1) Remove the Control Panel Assy (see section 4.2.10).

(2) As shown in Fig.2, disengage the two claws A of the lover-lock ② to remove the Frame-OP ①, and remove the lever lock ② and the spring-compression ③.

(3) Disengage the two claws B of the Cover-Assy-OP ④ with inserting a flat- blade driver (Tool No.3) to remove the Cover-Assy-OP ④ and the sprint-torsions ⑤.

(4) As shown in Fig.3, inserting a flat- blade driver (Tool No.3) to the two hooks of the Cover-Assy-OP ④, detach the Board-PRP(C5450/C5400/C5540/C5250/C5200/C5150/C3200n)/Board-PRO(C3200/C3100/C5510) ⑥ and the cable ⑦.

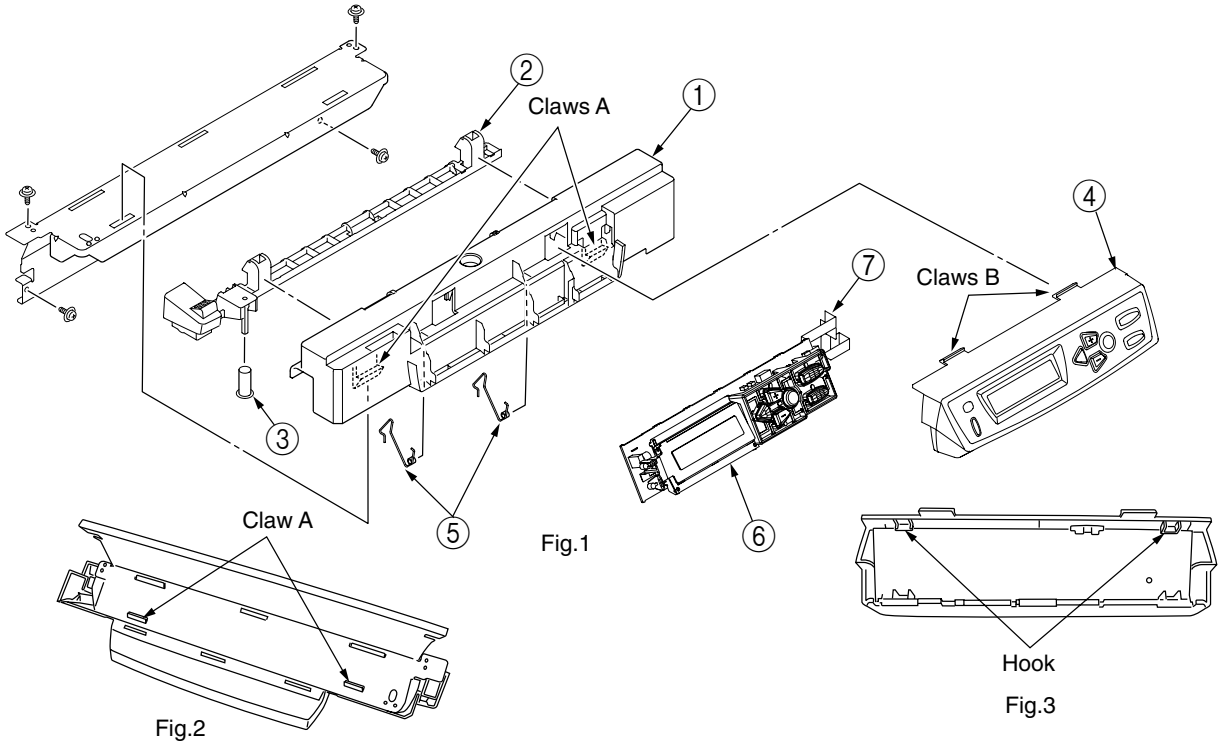


Figure 4-2-11-1 Board-PRP (C5450/C5400/C5540/C5250/C5200/C5150/C3200n) / Top Cover Handle

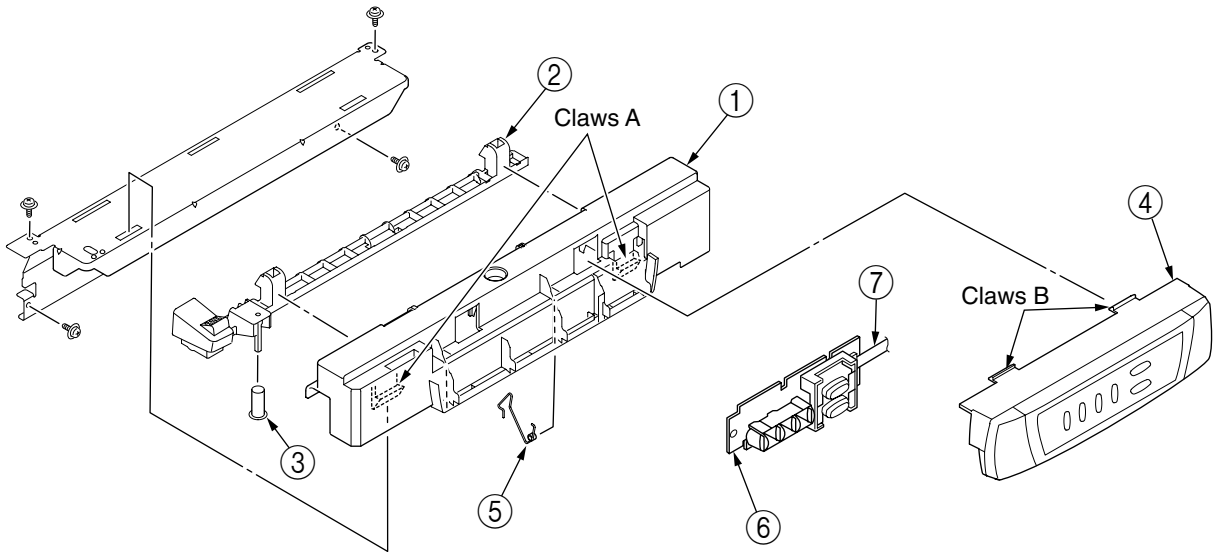


Figure 4-2-11-2 Board-PRO (C3200/C3100/C5510) / Top Cover Handle

4.2.12 Low-Voltage Power Unit / ID-FAN / Low-Voltage Power Unit FAN / Hopping Motor / Fuser Motor

⚠Warning	Risk of Electric Shock	

There is a risk of electric shock during replacement of the low voltage power supply.

Use insulating gloves or avoid direct contact with any conducting part of the power supply, and caution should be exercised during replacement.

The capacitor may take one minute to complete discharge after the AC cord is unplugged. Also, there is a possibility that the capacitor doesn't discharge because of a breakage of the PCB, etc., so remember the possibility of electric shock to avoid electric shock.

(1) Remove the print controller PCB (see section 4.2.7).

(2) Remove the controller PCB (see section 4.2.6).

(3) Boost up the three claws A of the Guide Assy Side R ① to remove the film ② and the Frame-Duct ③. Remove the two claws B of Duct ③ to demount the ID-FAN ④.

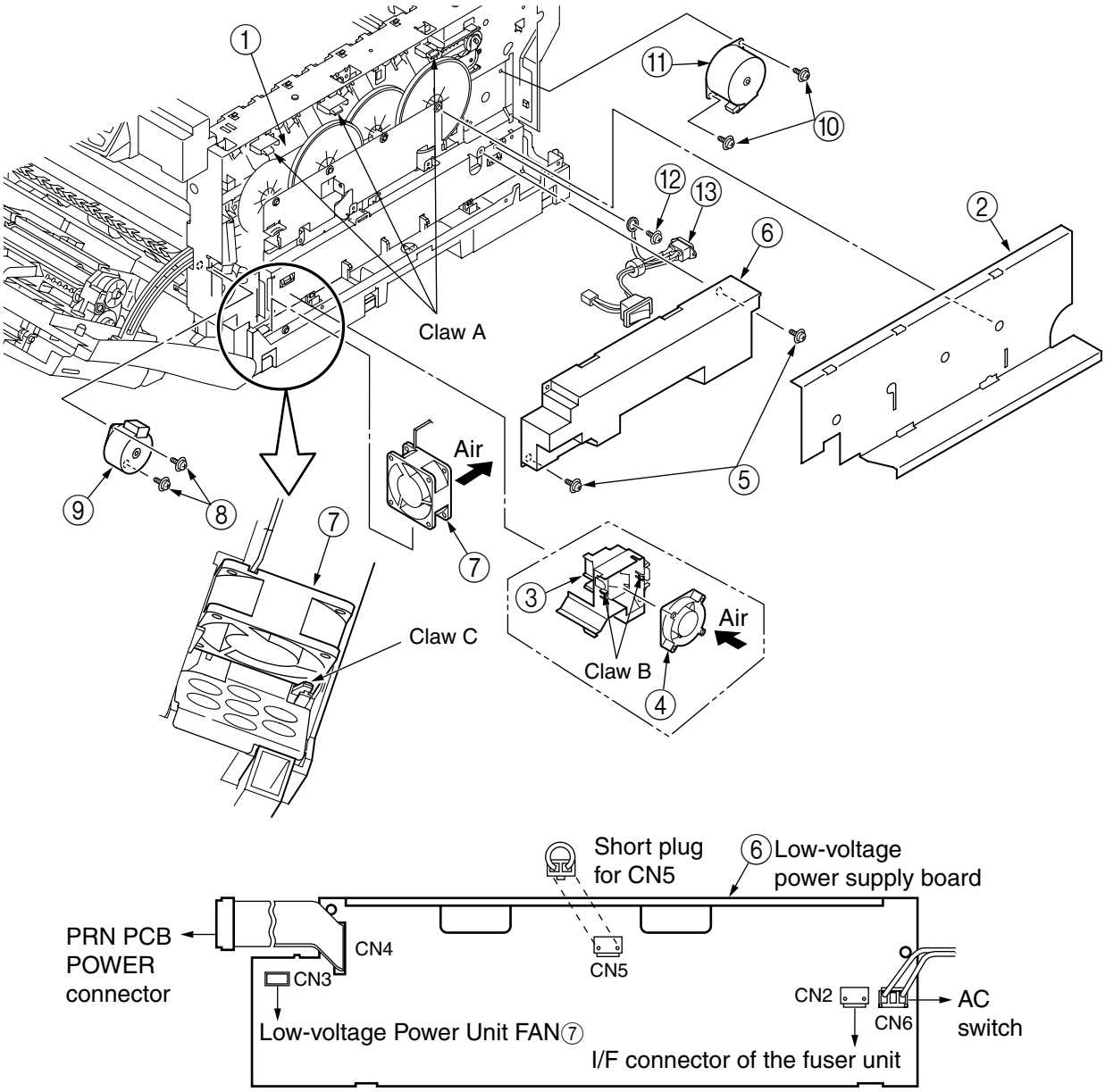
(4) Remove the two screws (golden) ⑤ and the four connectors (CN2, CN3, CN4, CN6) to demount the Low-voltage Power Unit ⑥ (Tool No.1). Remove the screw ⑫ to detach the AC Inlet Assy ⑬.

(5) Demount the Low-voltage Power Unit FAN ⑦ by releasing the claw C.

(6) Remove the two screws (black) ⑧ and the connector to detach the hopping motor ⑨ (Tool No.1).

(7) Remove the two screws (black) ⑩ and the connector to detach the fuser motor ⑪ (Tool No.1).

Note!
- When reassembling the ID FAN ④, Low-voltage Power Unit FAN ⑦, check the attachment direction.
- When reassembling the Low-voltage Power Unit6, check the setting of AC input voltage.
  100V series: Install a short plug to the connector CN5
  230V series: Do not install a short plug to the connector CN5
- The Low-voltage Power Unit ⑥ and the AC Inlet Assy ⑬ must be replaced in a pair (they were in a pair qualified to applicable safety standards).



Note) CN5: Connector to switch over the setting of AC input voltage
100V series: A short plug is installed. / 230V series: A short plug is not installed.

Figure 4-2-12 Low-voltage Power Unit / ID-FAN / Low-Voltage Power Unit FAN / Hopping Motor / Fuser Motor

4.2.13 Board-PRT

(1) Remove the right side cover (see section 4.2.2).

(2) Remove the print engine controller-PCB and the controller-PCB (see sections 4.2.6 and 4.2.7).

(3) Remove the film and the low voltage power unit (see section 4.2.12).

(4) Remove the four screws (golden) ① and the two E-snaps ② to remove the plate-outer ③. (Tool No.1, No.8)

(5) Remove the gear-idle-ID-K ④, Y and C ⑤, each in one piece, and M ⑥, and the spring ⑦ of the solenoid.

(6) Unlatch, and remove by sliding the guide assy-side R ⑧, the assy and detach the Board-PRT ⑨ and the nine springs ⑩.

Note! When reassembling the board-PRD, do not forget to attach the spring of the solenoid ⑦.

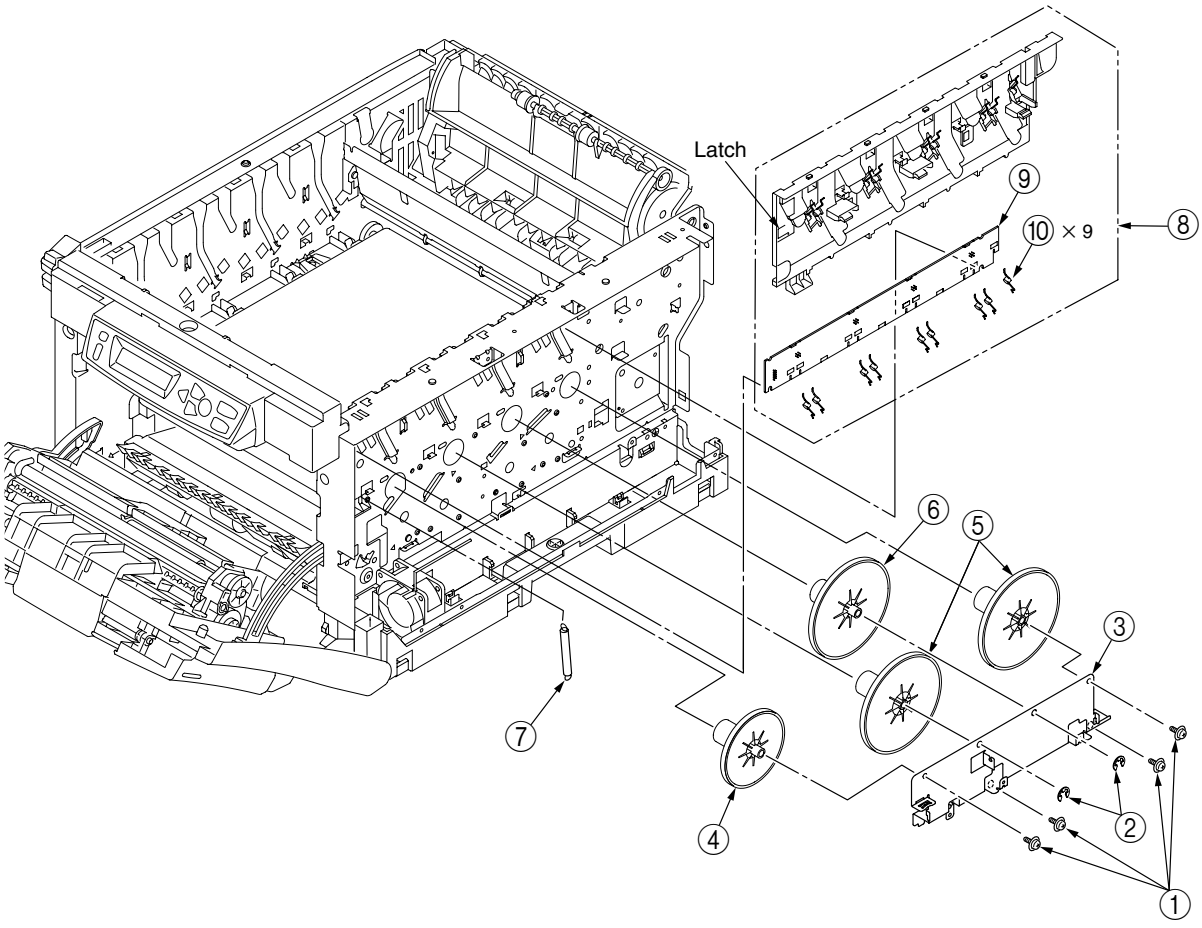


Figure 4-2-13 Board-PRT

4.2.14 Guide-Eject Assy / Color Registration Assy / Board-PRM

(1) Remove the left side cover, the write side cover, the rear cover and the top cover Assy (see sections 4.2.1, 4.2.2, 4.2.4 and 4.2.8).

(2) Remove the engine controller PCB, the controller PCB and the film [see sections 4.2.6 and 4.2.7, and step (3) of section 4.2.12].

(3) Unscrew the two screws (golden) ① to remove the Plate-Heat ②.(Tool No.1)

(4) Remove the two Spring-Torsions ③ and disengage the four claws to remove the cover-driver ④ with a flat-blade driver (Tool No.3).

(5) Make screw (golden) ⑤ and connector removal to detach the board-PRM ⑥.(Tool No.1)

(6) Make two-screw (golden) ⑦ removal to detach the color registration assy ⑧.(Tool No.1)

(7) Make three-screw (golden) ⑨, the connector ⑩ and the guide cable ⑪ to detach the guide eject assy ⑫.(Tool No.1)

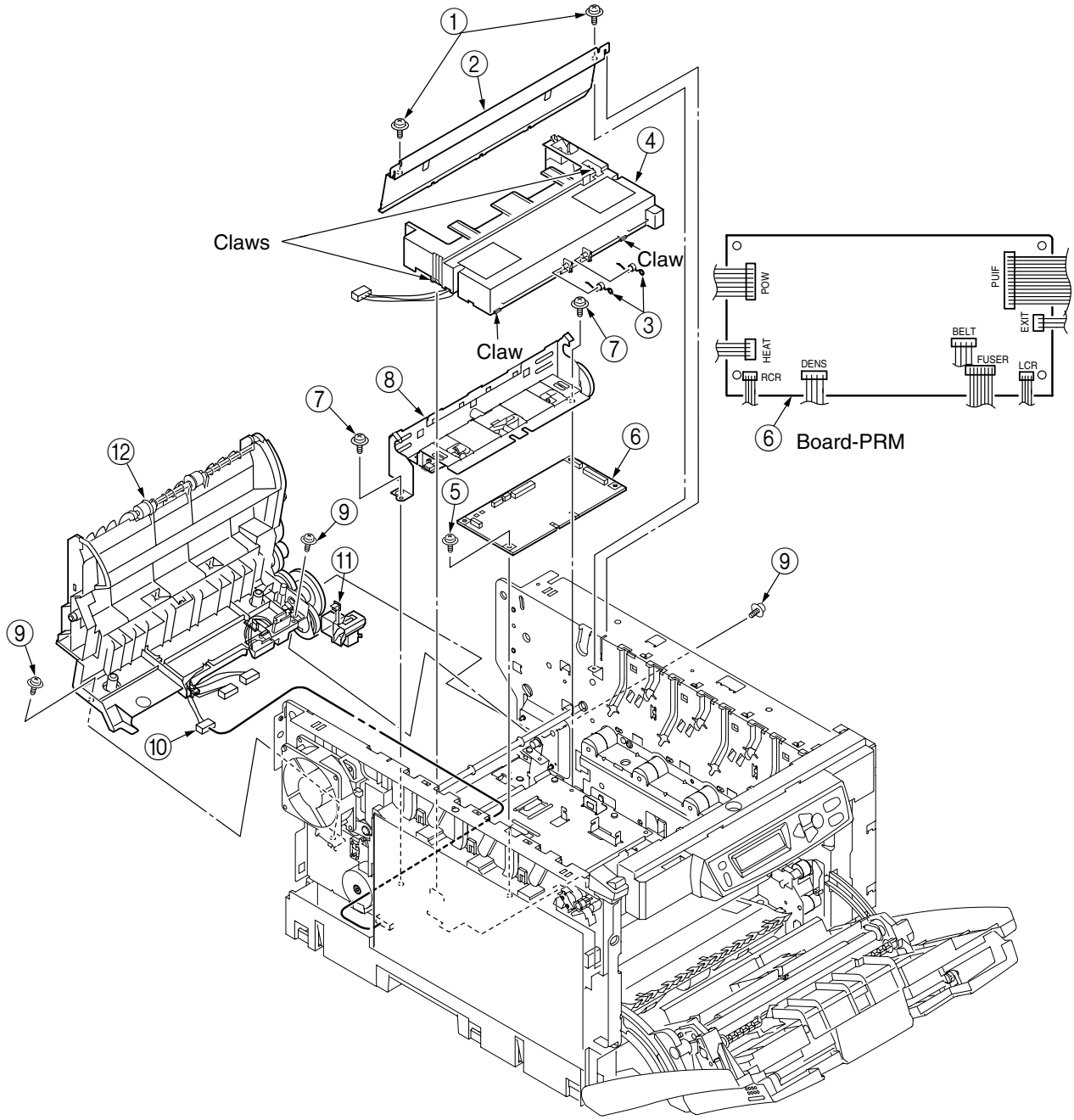


Figure 4-2-14-1 Guide-Eject Assy / Color Registration Assy / Board-PRM

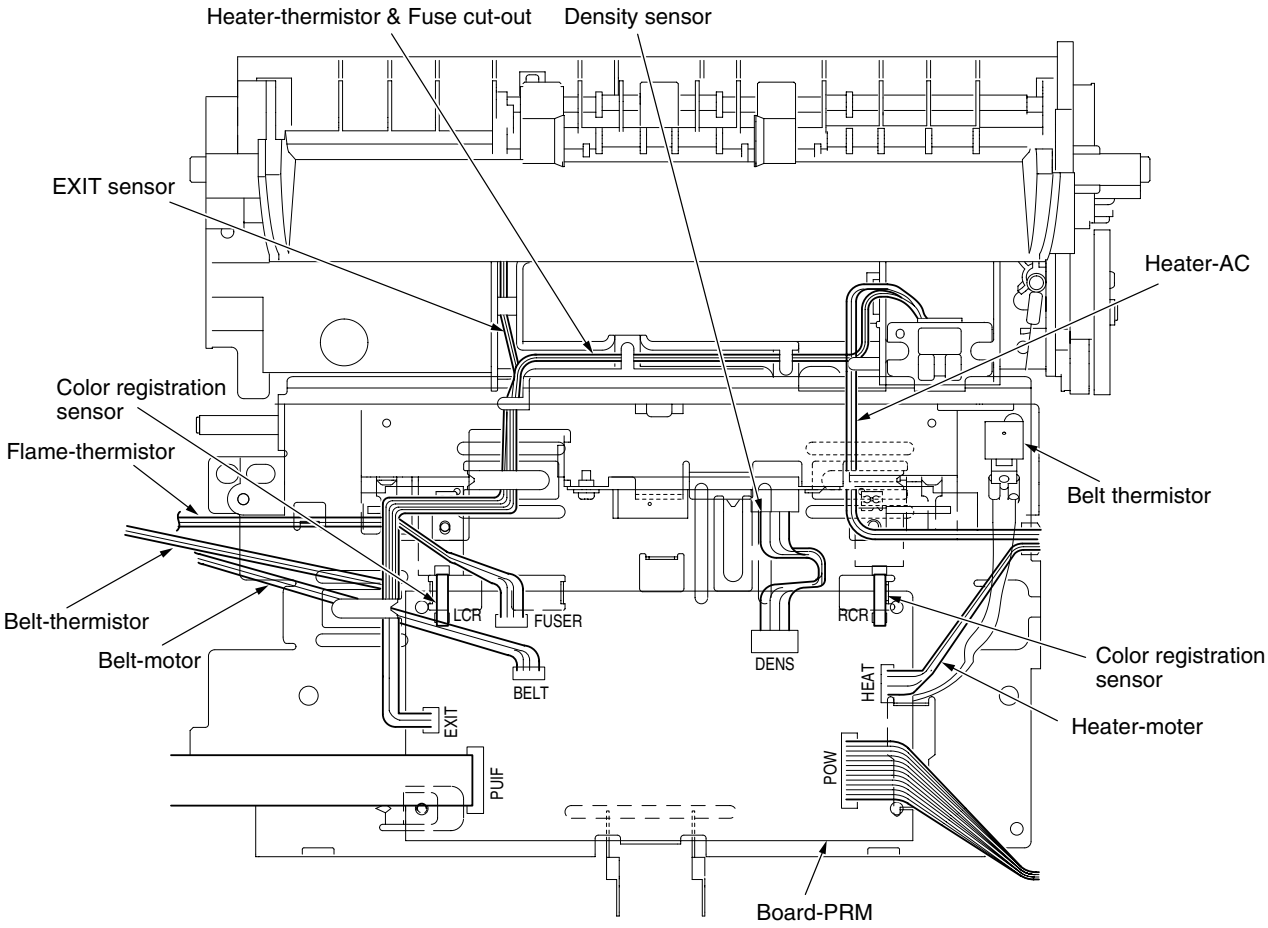


Figure 4-2-14-2 Board-PRM Cable Route

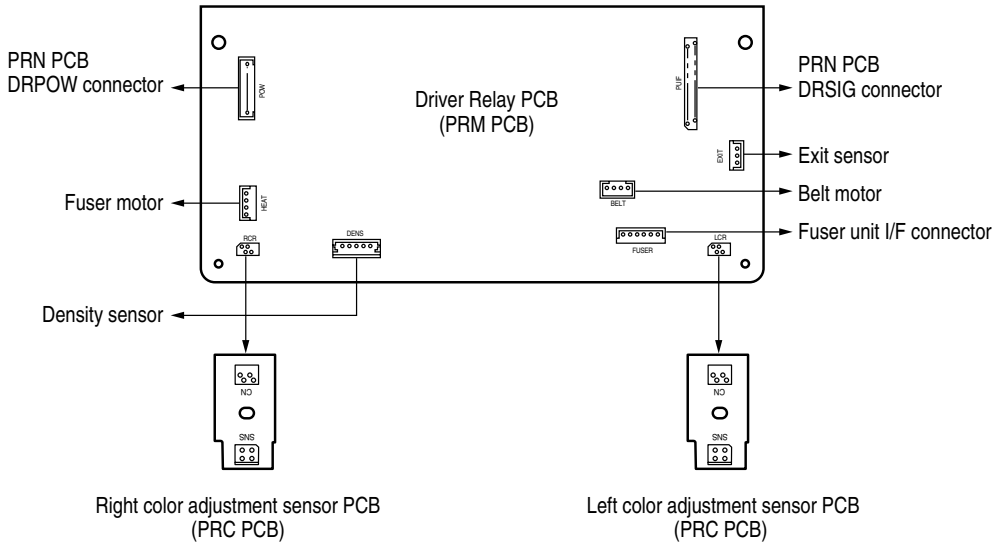


Figure 4-2-14-3 Board-PRM Connection Figure

4.2.15 FAN (Fuser) / Belt Motor / High Voltage Power Supply Board / Cover Open Switch

(1) Remove the left side cover (see section 4.2.1).

(2) Make screw (golden) ① and connector removal to detach the belt motor ②.(Tool No.1)

(3) Remove the Rear-Cover ③ (see section 4.2.4).

(4) Remove the connector and detach the FAN (Fuser) ④ , turning it clockwise.

(5) Remove the connector and claws to detach the cover open switch ⑤.

(6) Remove the screws (golden ⑥ and black ⑦), seven claws and connector to remove the high voltage power supply board ⑧.

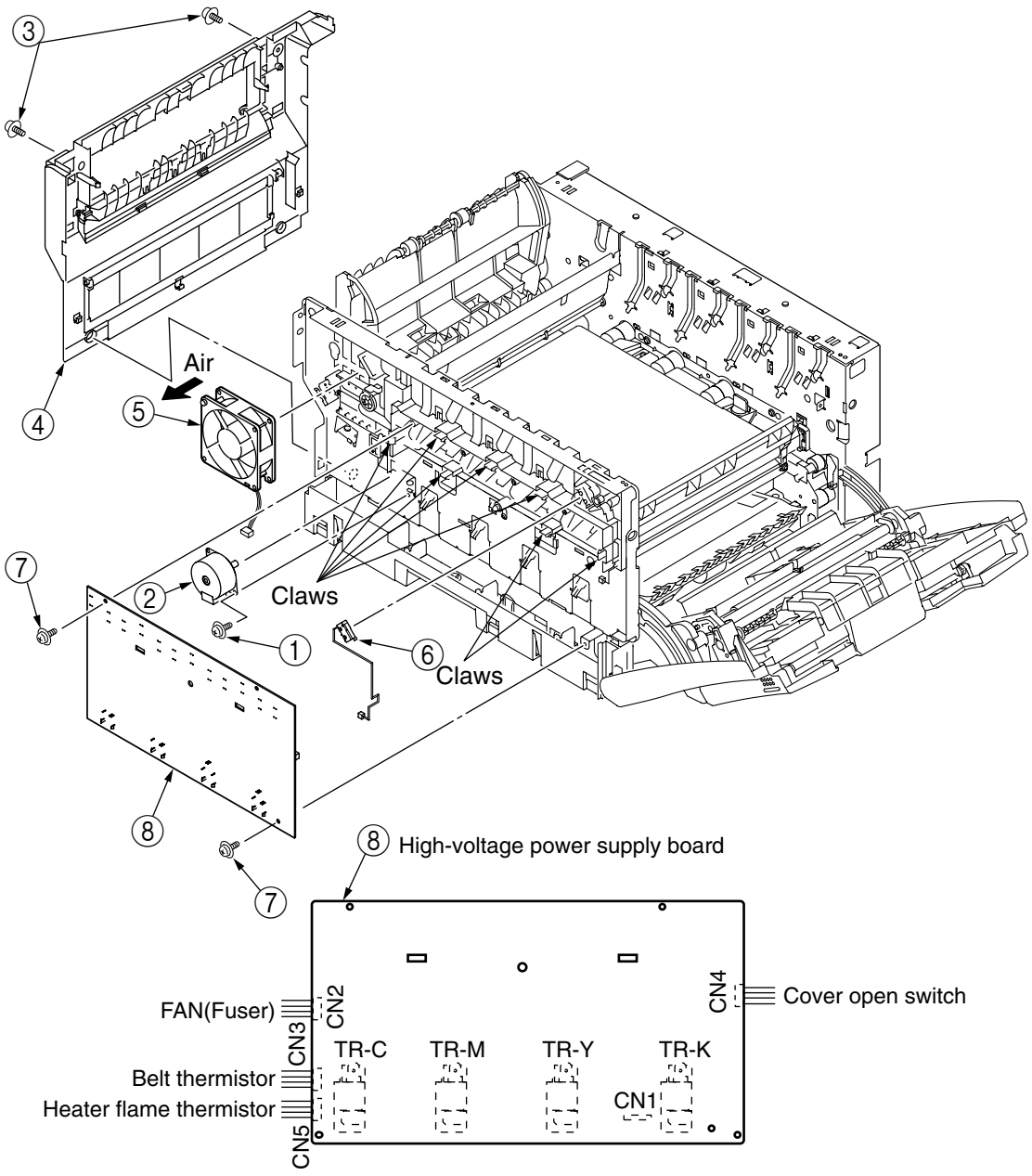


Figure 4-2-15 FAN (Fuser) / Belt Motor / High Voltage Power Supply Board / Cover Open Switch

4.2.16 MPT-Assy

(1) Open the MPT-Assy ①.

(2) Remove the two stoppers with opening the two arms of MPT-Assy ① out and remove the two supports to detach MPT Assy ①, pulling the two supports in the direction of the allow.

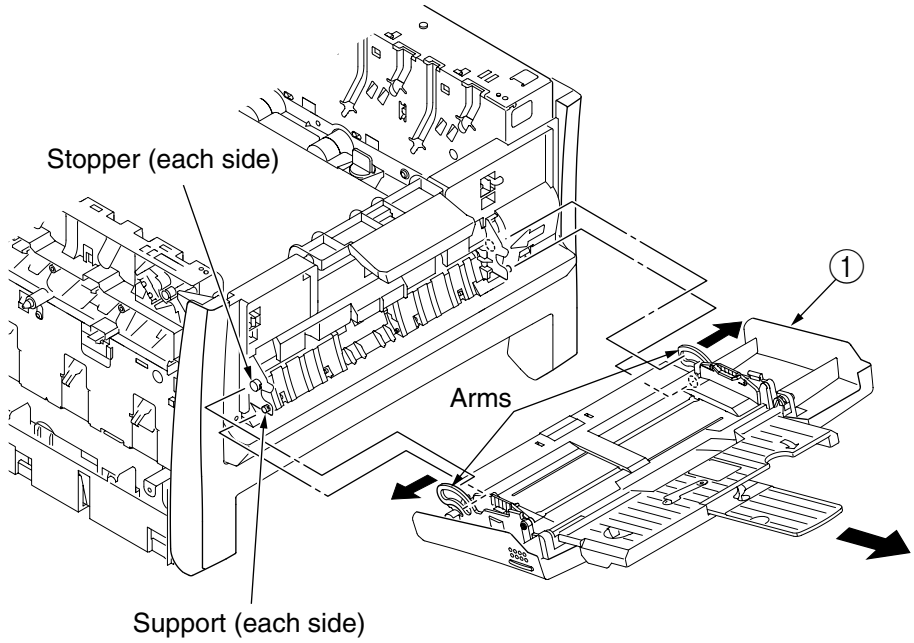


Figure 4-2-16 MPT-Assy

4.2.17 Feeder Unit / Board-RSF / MPT Hopping Roller / Frame Assy Separator / Cover-Front

(1) Open the top cover.

(2) Remove the left side cover (see section 4.2.1).

(3) Make plate-shield and connector removal (see section 4.2.6).

(4) Disengage the claws of the stay L ① and the stay R ②, sliding the feeder unit ③ to the right, detach the feeder unit.

(5) Remove the cover sensor ④ by releasing claw engagement.

(6) Make connector removal to detach the Board-RSF ⑤.

(7) Remove the lever ⑥ by turning it until it is unlocked.(Tool No.1)

(8) Remove the two screws (black) ⑦ to remove the stay L ①.(Tool No.1)

(9) Remove the four screws (black) ⑧, disengage the front two claws A and remove the feed Assy ⑨.(Tool No.1)

(10) Remove the two lock-shafts ⑩ and the two springs ⑪ and disengage the four claws to detach the Hopping Roller Assy ⑫.

(11) Remove the hopping roller shaft ⑬.

(12) Remove the two supports to detach the frame Assy separator ⑭, and remove the spring ⑮.

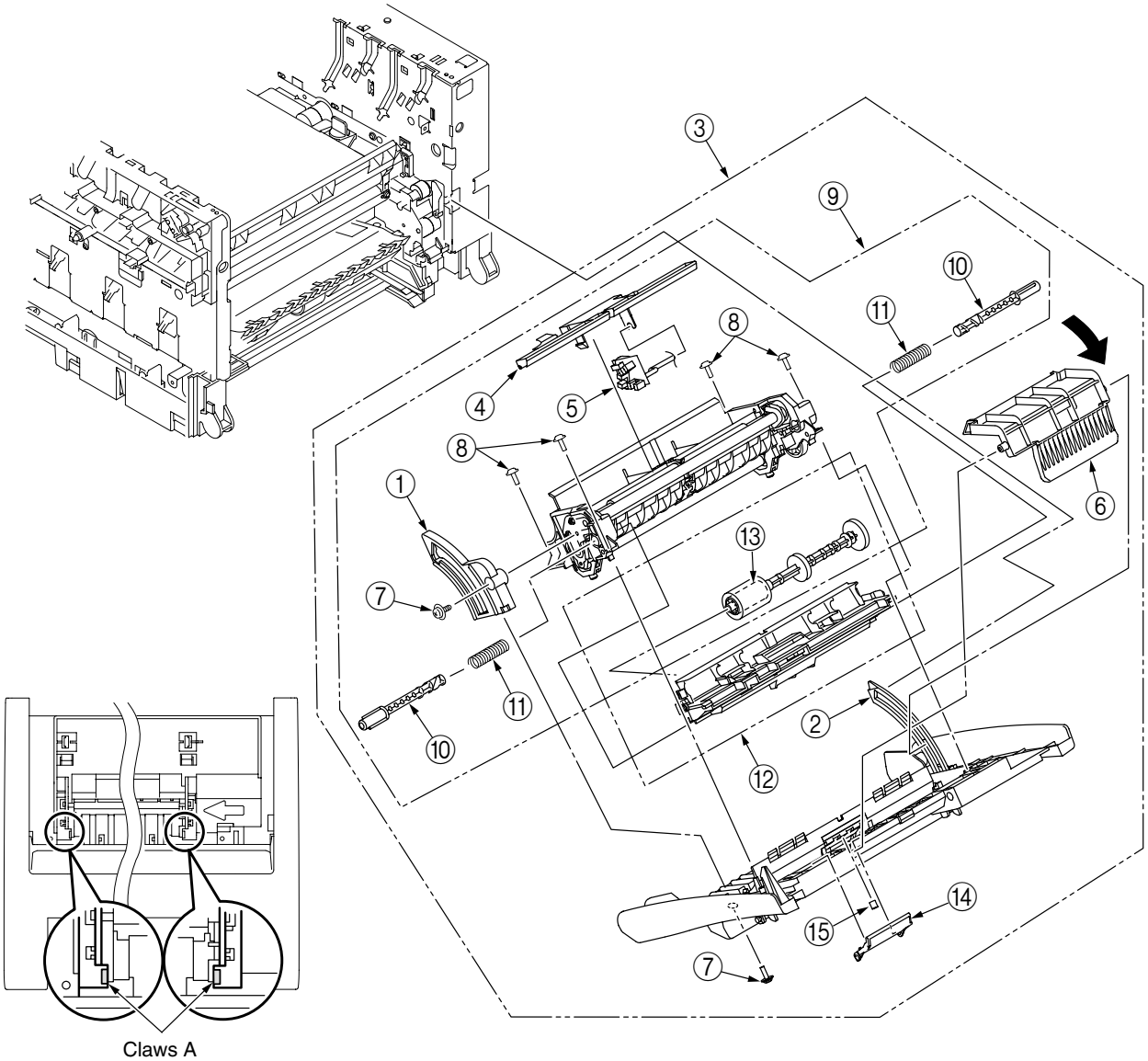


Figure 4-2-17 Feeder Unit / Board-RSF / MPT Hopping Roller / Frame Assy Separator / Cover-Front

4.2.18 Main Motors / Solenoid / Paper-End Sensor

(1) Remove the left side cover, the right side cover, the rear side cover, the top cover unit and the feeder unit (see sections 4.2.1, 4.2.2, 4.2.4, 4.2.8 and 4.2.17).
(2) Remove the print engine controller PCB, the controller PCB and the film [see sections 4.2.6, 4.2.7 and 4.2.12 (3)].
(3) Remove the Fan(ID), the frame duct, the Fan(Pow L) and the low voltage power unit (see section 4.2.12).
(4) Remove the Plate-Heat, the Eject Assy, the Cover-Driver, the Color-Registration Assy and the Board-PRM (see section 4.2.14).
(5) Unscrew the two screws (golden) ① to remove the plate-driver ②.(Tool No.1)
(6) Disengage the latch to remove the cover-hopping ③.
(7) Remove the Fan(fuser) (see section 4.2.15).
(8) Remove the E-snap ④, Disengage the latch to remove the gear assy-planet ⑤, the shaft ⑥ and the three rollers ⑦.
(9) Unscrew the two screws (golden) ⑧ to remove the side plate R assy ⑨.(Tool No.1)
(10) Remove the four screws (golden) ⑩ and the two E-snaps ⑪, then remove the Plate-Outer ⑫, the Gear-Idle-K ⑬, and Y and C ⑭, and M ⑮.(Tool No.1)
(11) Remove the three screws (golden) ⑯ to remove the plate-lock-out-ID ㉚ and the Plate-Inner ⑰. (Tool No.1)
(12) Remove the screws (golden) ⑱ (one screws each Motor-ID ⑲) and the connectors, then uninstall the Motor-IDs ⑲.(Tool No.1)
(13) Remove the screw (golden) ⑳ and the two screws (black) ㉛ to remove the Gear Assy-HP ㉑. (Tool No.1)
(14) Remove the screw (golden) ㉒ to uninstall the solenoid ㉓.(Tool No.1)
(15) Remove the spring ㉔, disengage the claw and remove the bush ㉕, the hopping roller shaft ㉖ and the Frame-Hopping ㉗.
(16) Detach the paper-end sensor ㉘ and the paper-end lever ㉙.

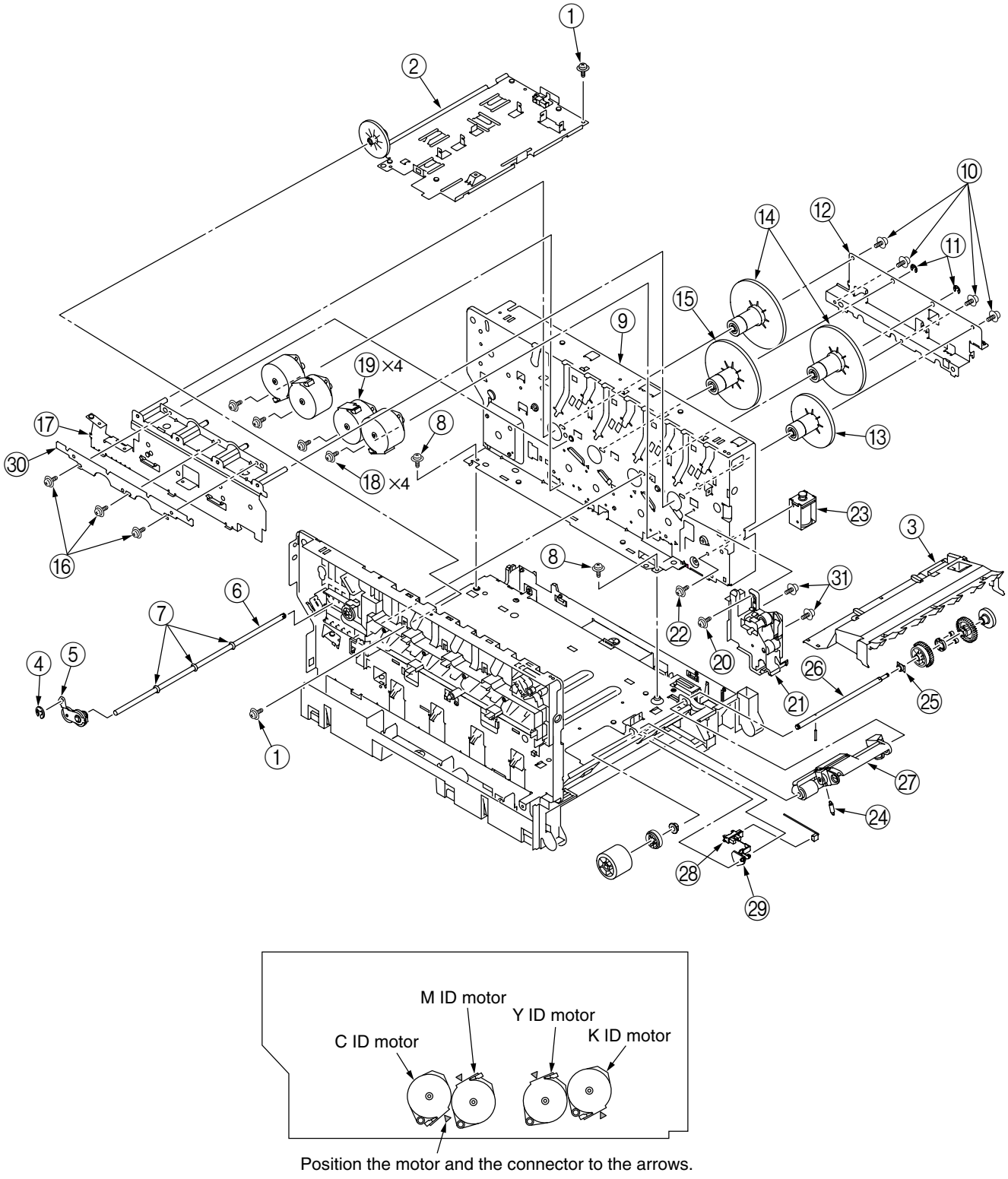


Figure 4-2-18 Main Motors / Solenoid / Paper-End Sensor

4.2.19 Feed Roller

(1) Remove the cassette.

(2) Unlatch and detach the feed roller ①.

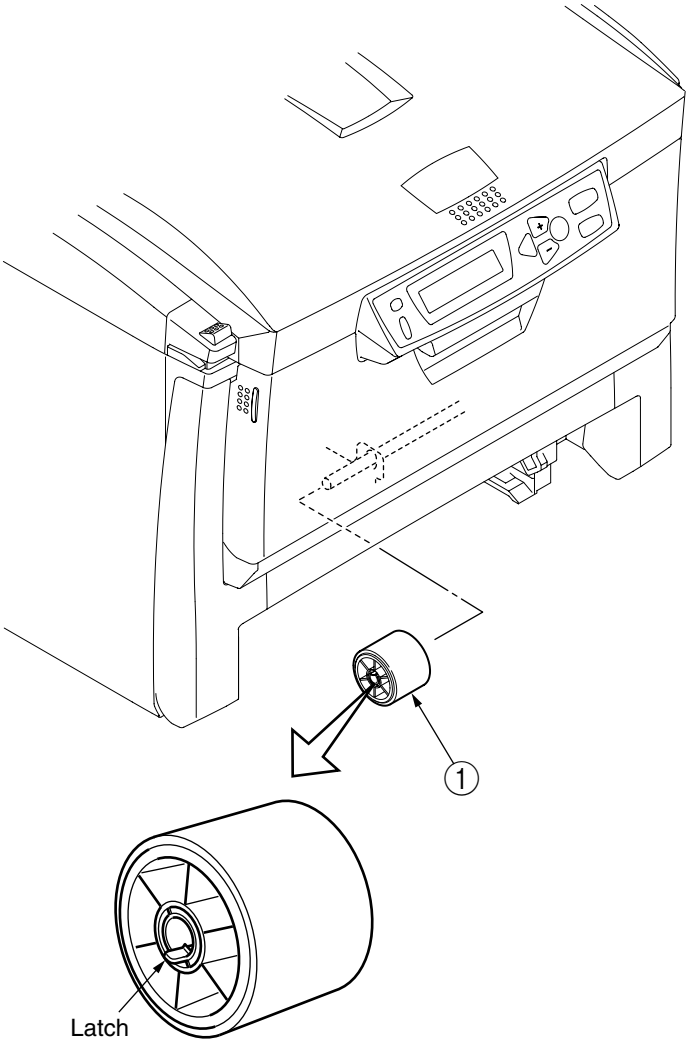


Figure 4-2-19 Feed Roller

4.2.20 Shaft Assy-Eject (FU) / Shaft Assy-Eject (FD) / Eject Sensor

(1) Detach the Eject Assy ① (see section 4.2.14).

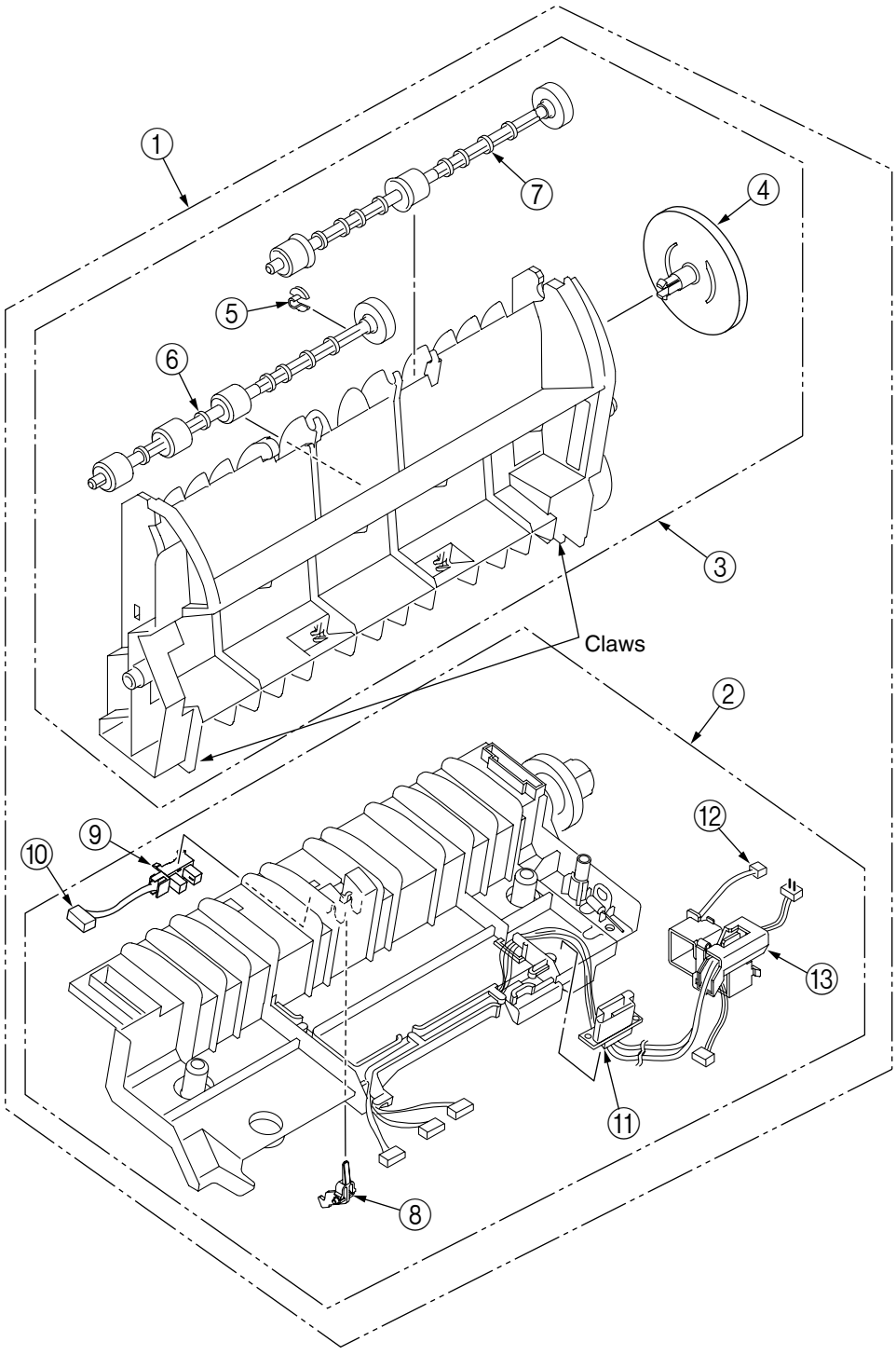
(2) Remove the two claws to separate the Guide-Eject-Lower ② and the Guide-Eject-Upper ③.

(3) Remove the Gear-Idle-Eject ④ and Stopper-Shaft ⑤, then detach the Shaft Assy-Eject (FU) ⑥ and the Shaft Assy-Eject (FD) ⑦.

(4) Detach the Lever-Eject Sensor ⑧ and then the eject sensor ⑨.

(5) Remove cables ⑩, ⑪ and ⑫ and the guide cable ⑬.

Figure 4-2-20 Shaft Assy-Eject (FU) / Shaft Assy-Eject (FD) / Eject Sensor



4.2.21 Fuser Unit

(1) Open the top cover ①.

(2) Rise the Fuser-Unit-Lock-Levers (two blue portions) ② in the directions of the arrows to detach the fuser unit ③.

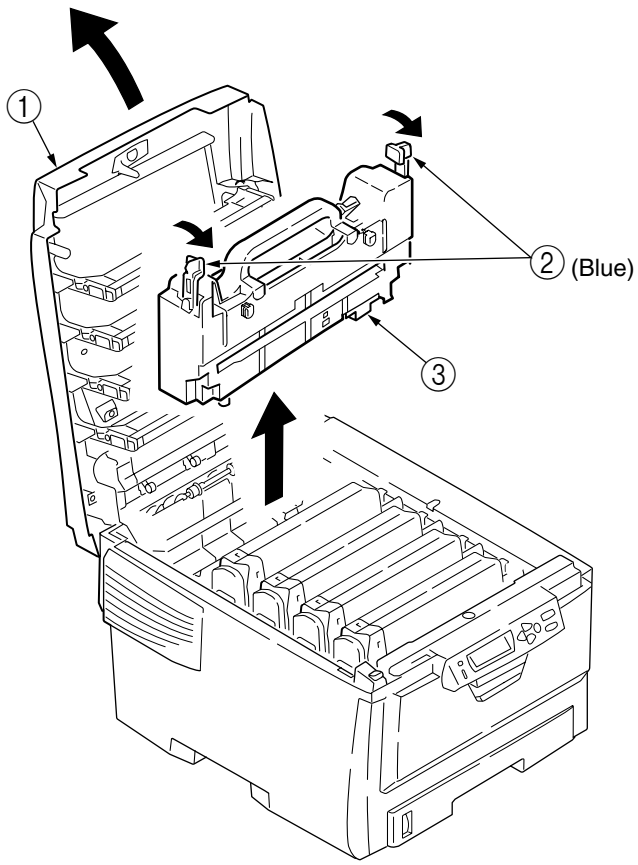


Figure 4-2-21 Fuser Unit

4.2.22 Belt Unit

(1) Open the top cover ①.
(2) Remove the image drum unit.
(3) Turn the lock levers (two blue portions) ② in the direction of the arrow ( ) and, grasping the lever (blue) ③, detach the belt unit ④.

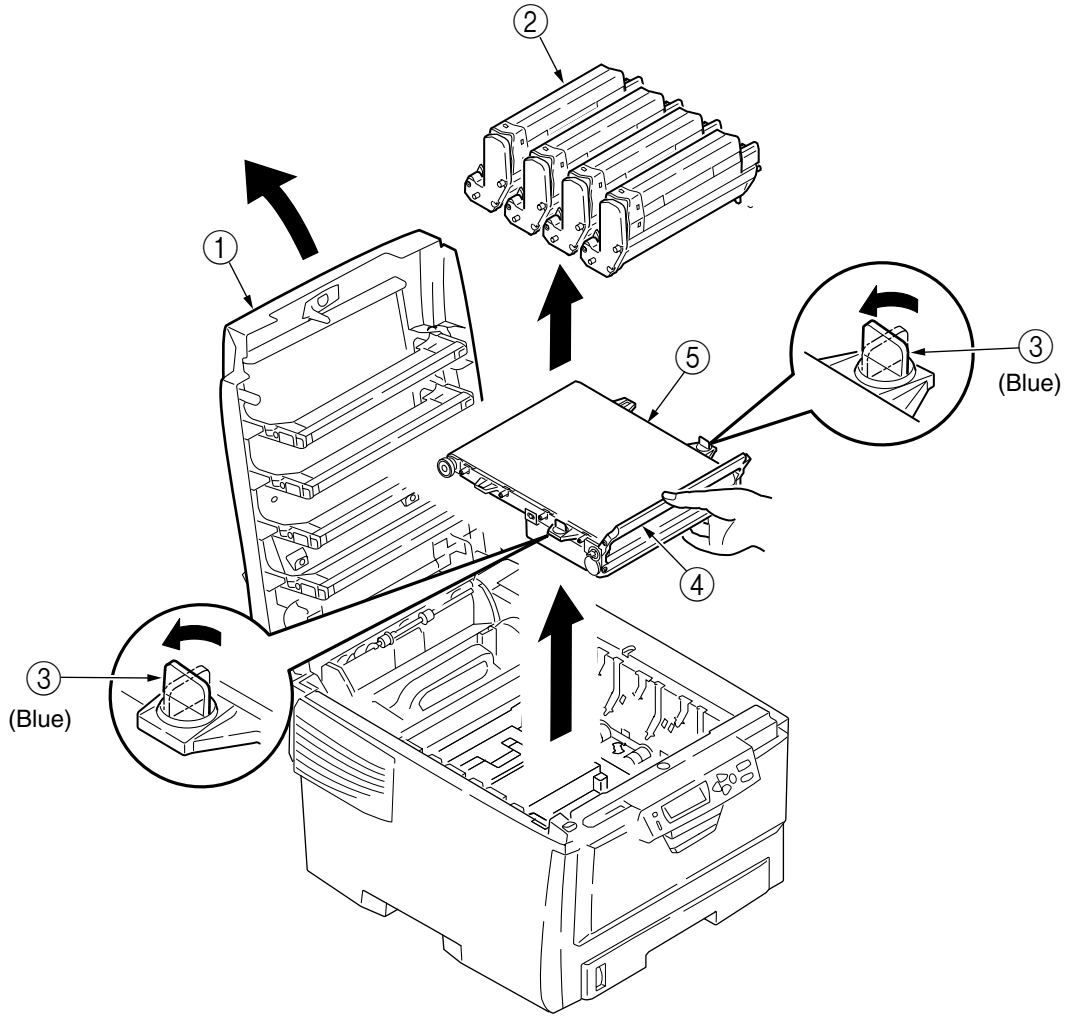


Figure 4-2-22 Belt unit

4.3 Parts to lubricate

This section shows parts to lubricate. It means that lubricating to parts other than mentioned is prohibited.
It is not necessary to lubricate in removing or installing. However, specified lubrication oil has to be used to lubricate if oil is wiped off.

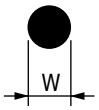
Inbrication work

(1) Mark and name of the lubrication oil

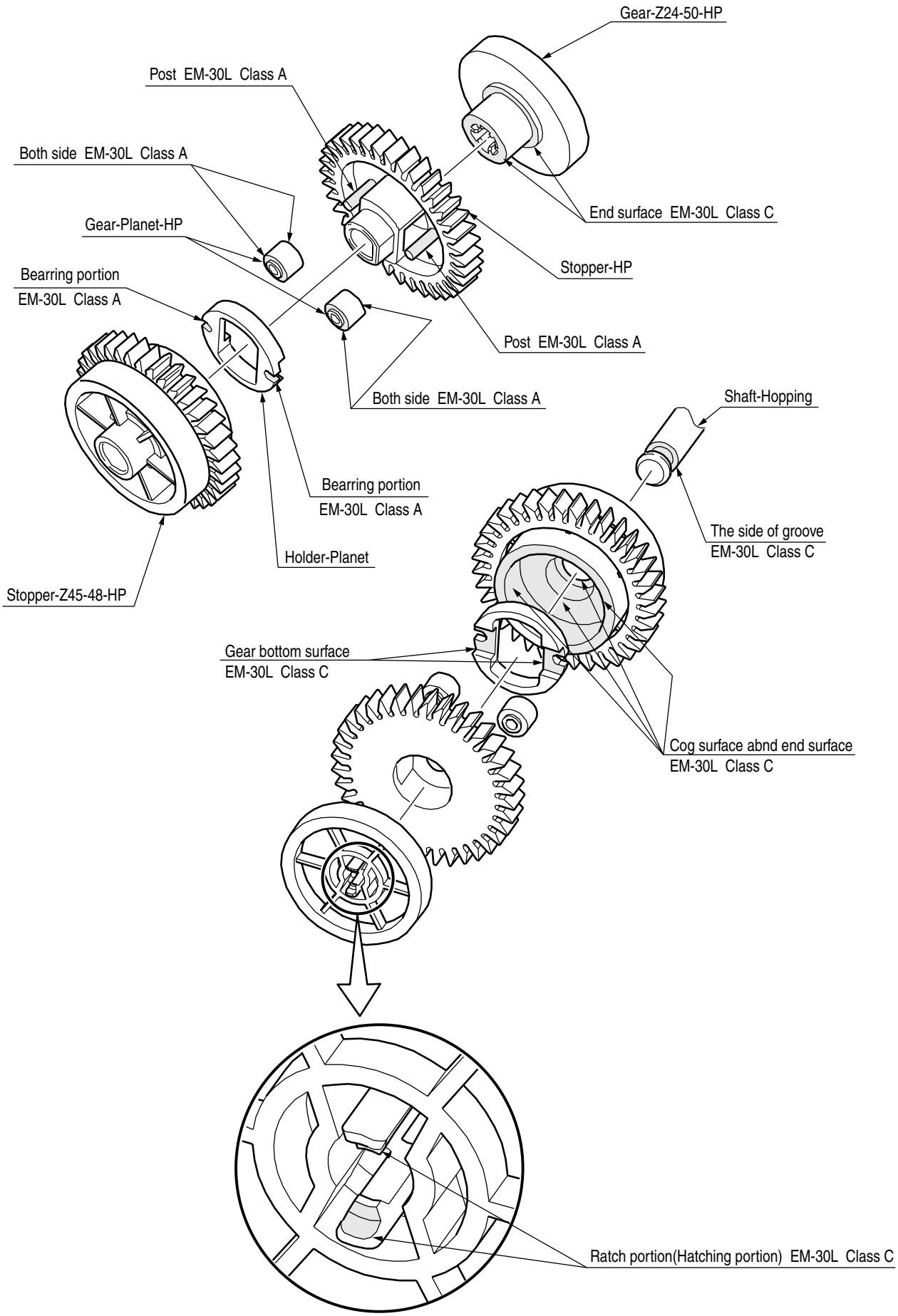
EM-30L : Molycoat EM-30L
HP-300 : Molycoat HP-300
PM : Panmotoroil 10W-40 or ZOA 10W-30

(2) Standard of amount of grease

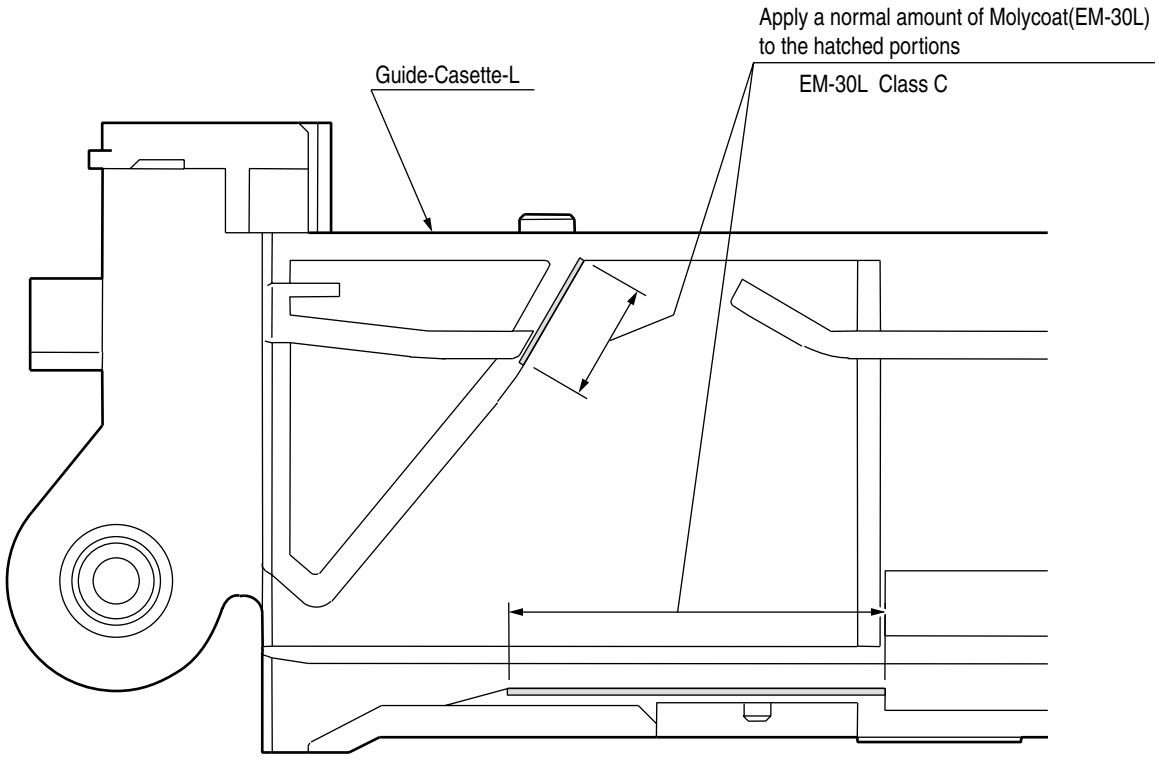
Class	S	A	B	C	D	E	F
Amount of grease(cc)	0.0005	0.003	0.005	0.01	0.03	0.05	0.1
W(mm)	1.24	2.25	2.67	3.37	4.86	5.76	7.26
Sample	•	●	●	●	●	●	●



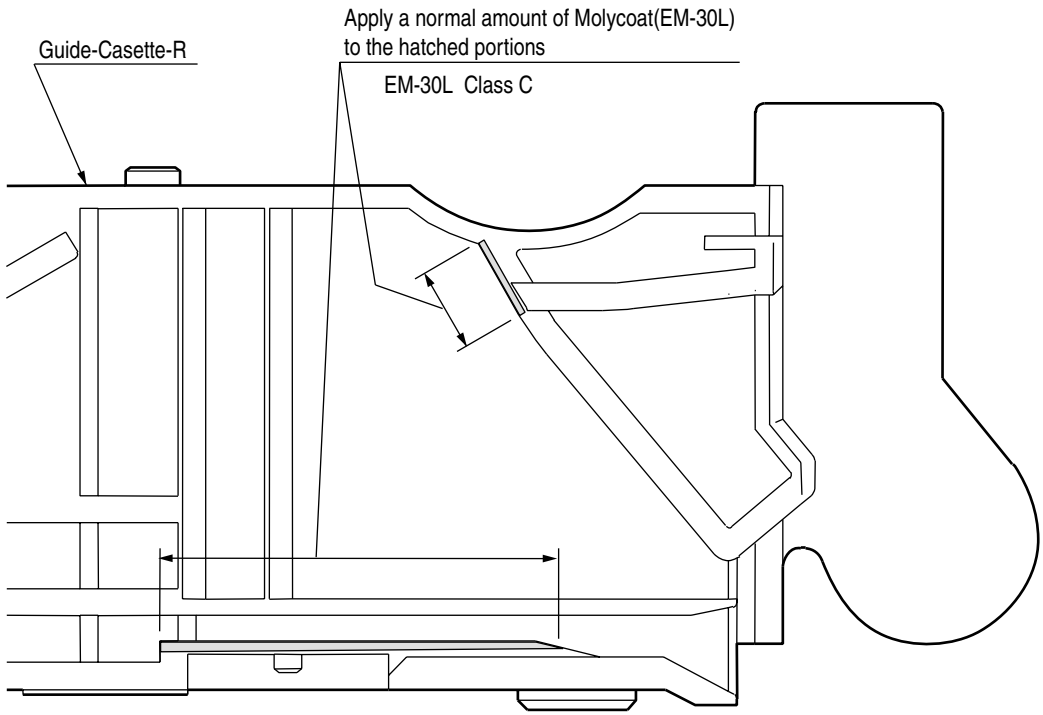
① 42049501 Plate-Assy.-Base



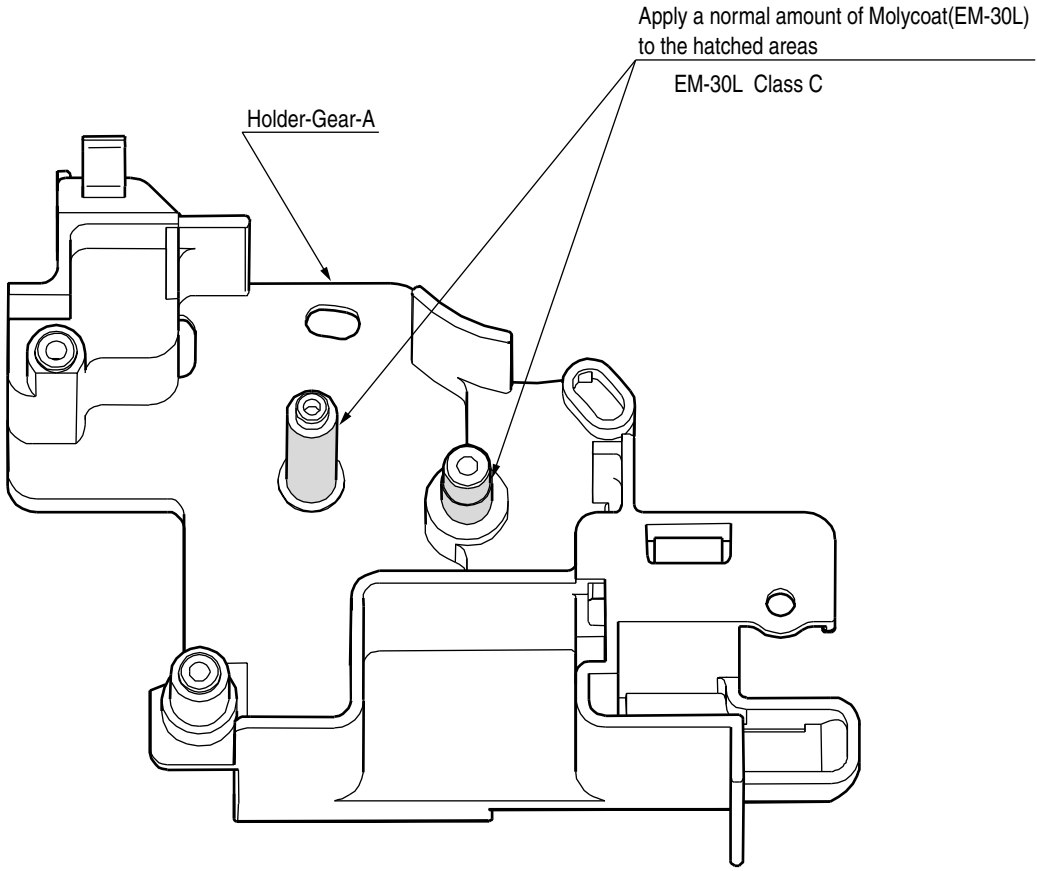
② 42049701 Guide-Assy.-Cassette-L



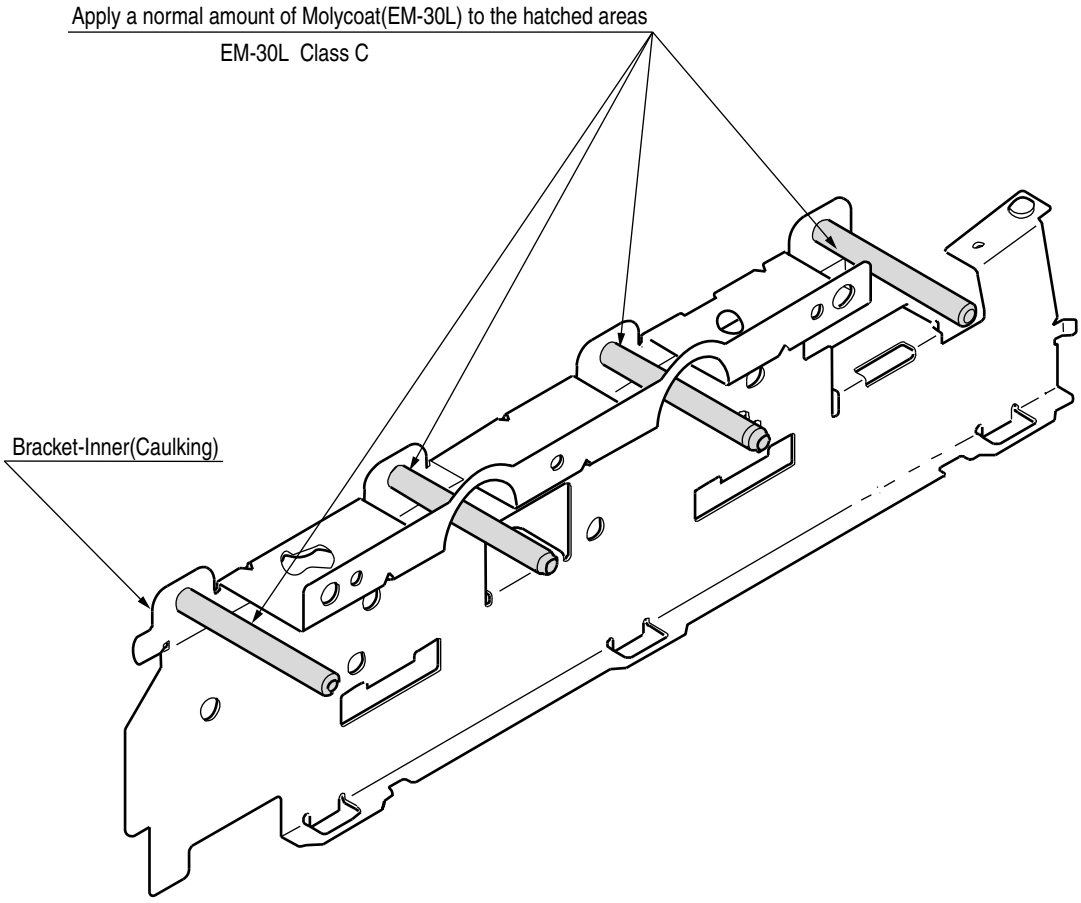
③ 42050101 Guide-Assy.-Cassette-R



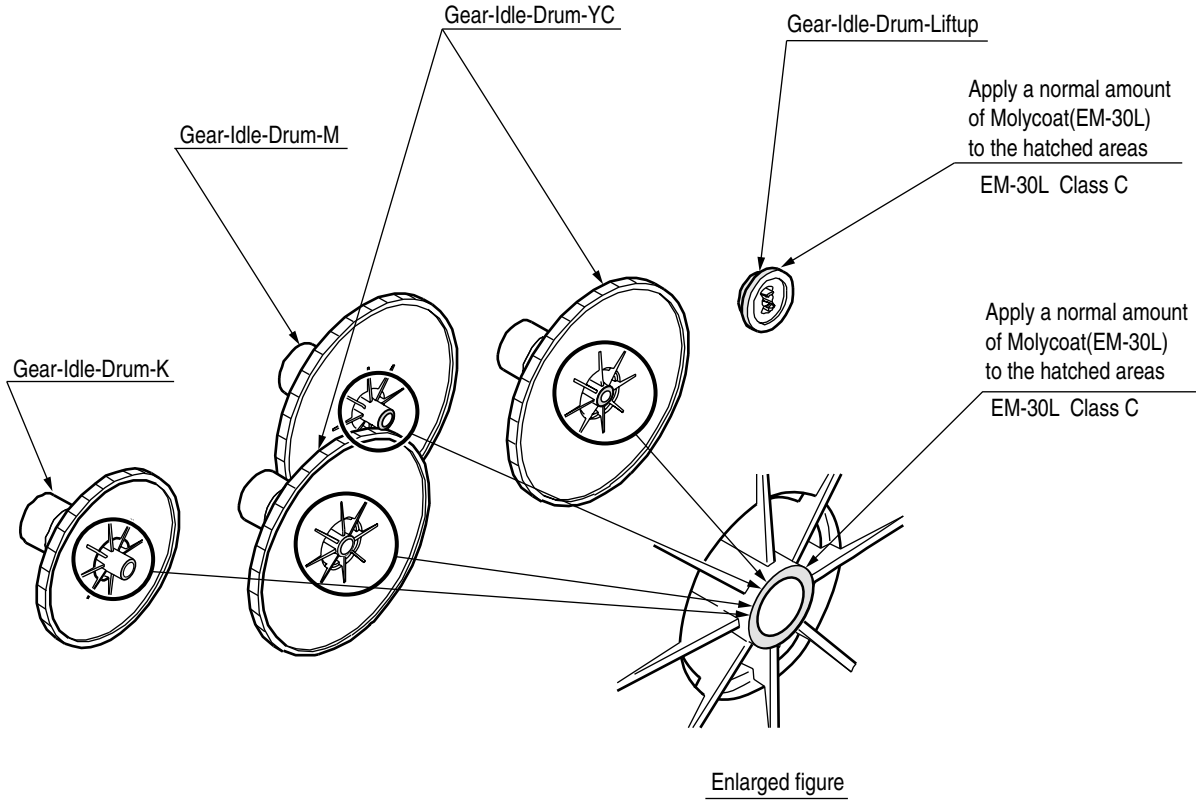
④ 42057301 Gear-Assy.-HP

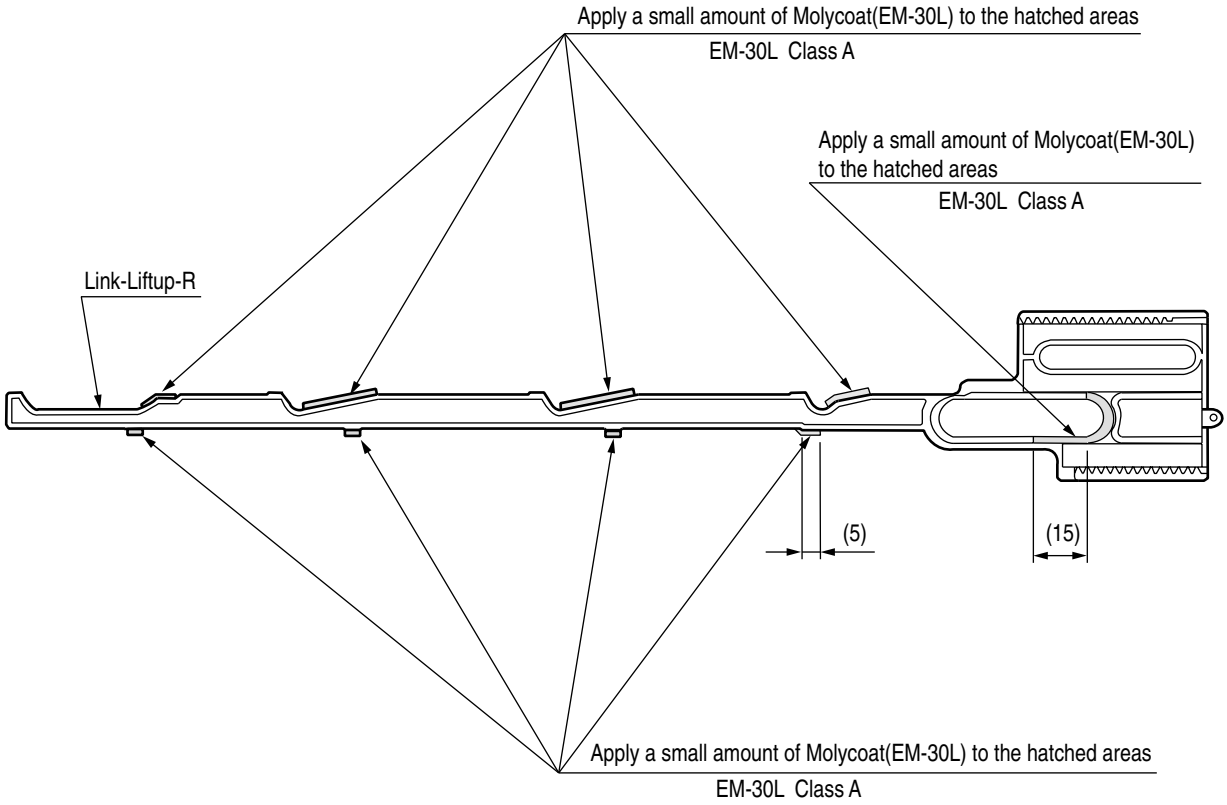


⑤-1 42053501 Plate-Ass.-Side-R

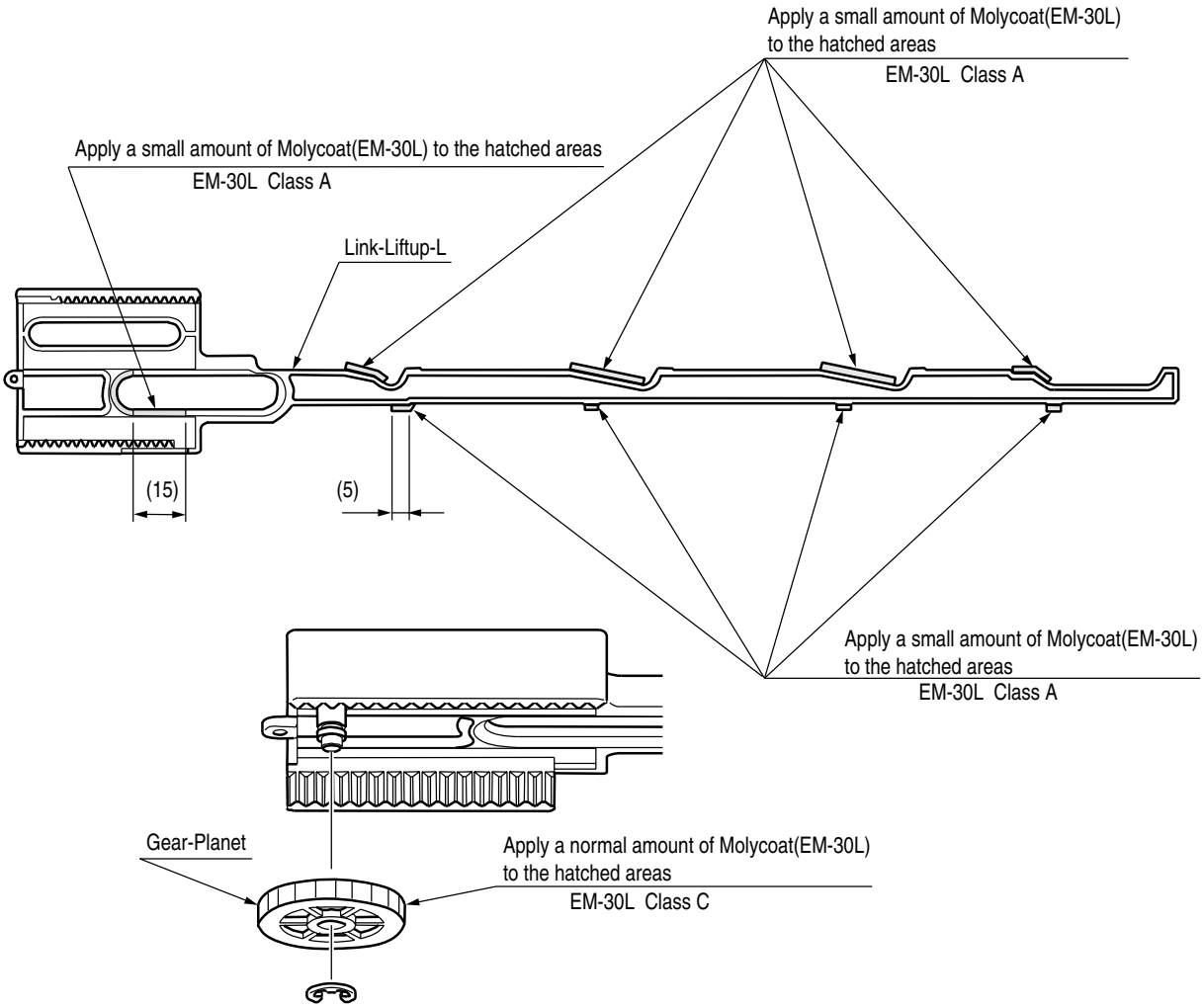


⑤-2 42053501 Plate-Ass.-Side-R

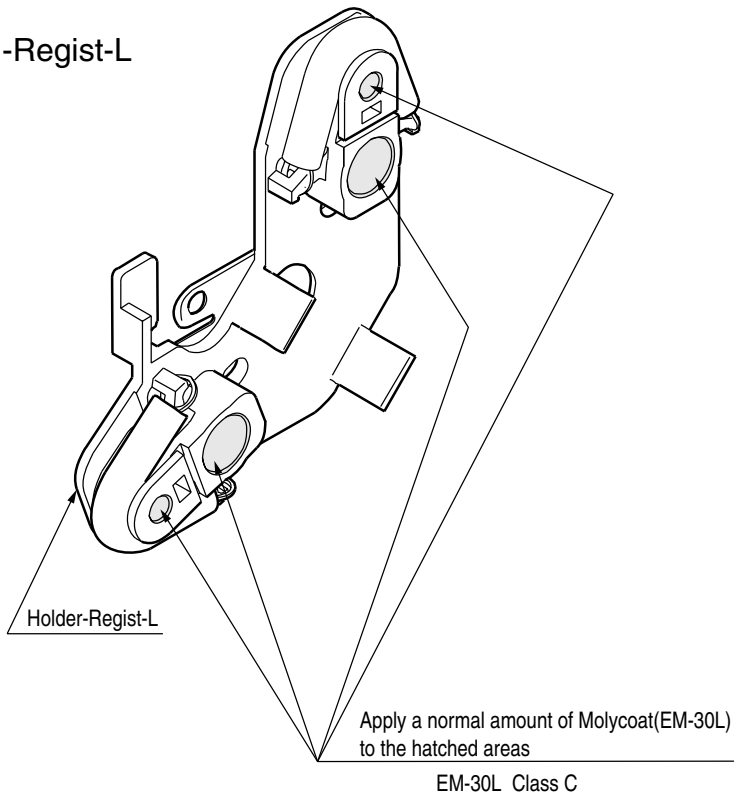




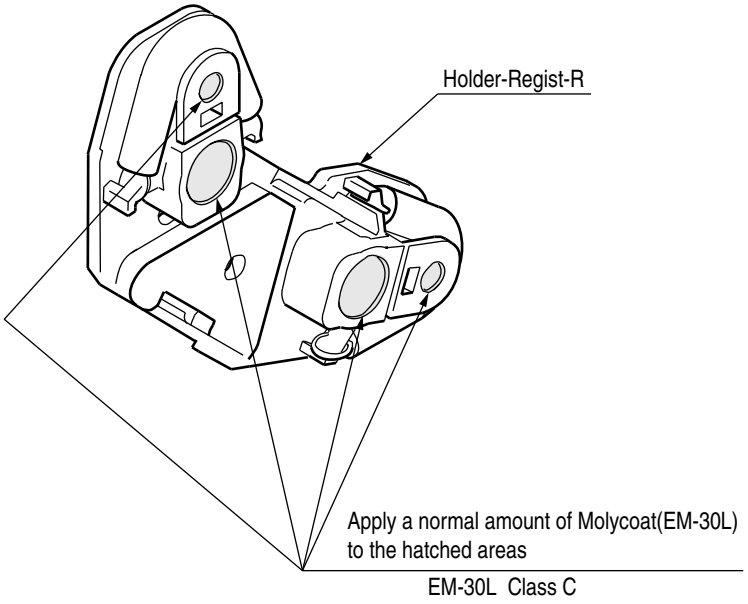
⑥ 42060001 Plate-Ass.-Side-L



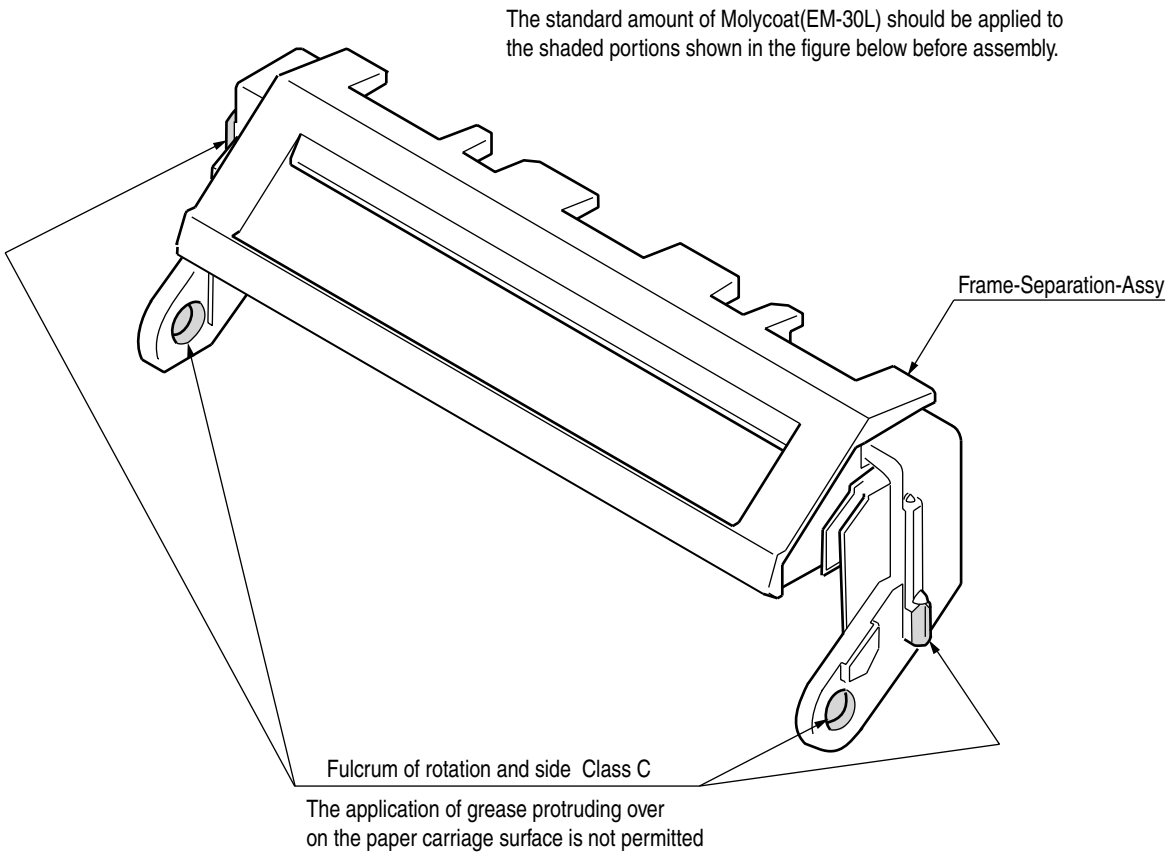
⑦ 42071401 Holder Assy.-Regist-L



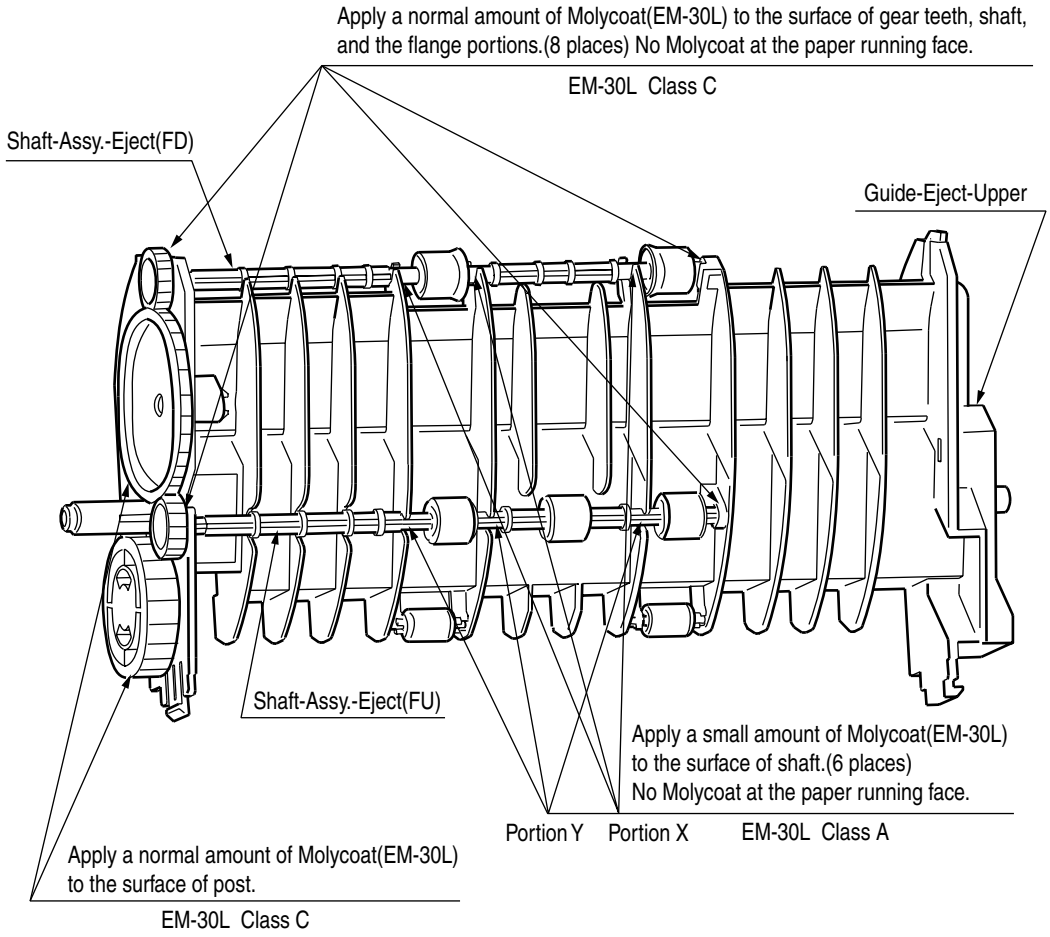
⑧ 42071901 Holder Assy.-Regist-R

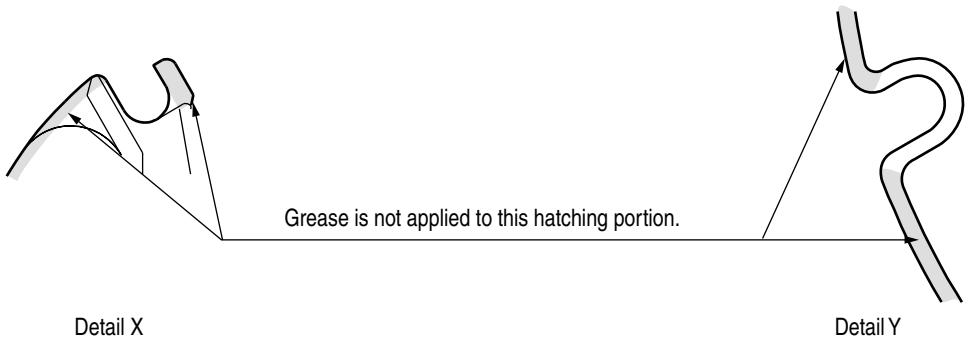


⑨ 42087001 Cassette-Assy

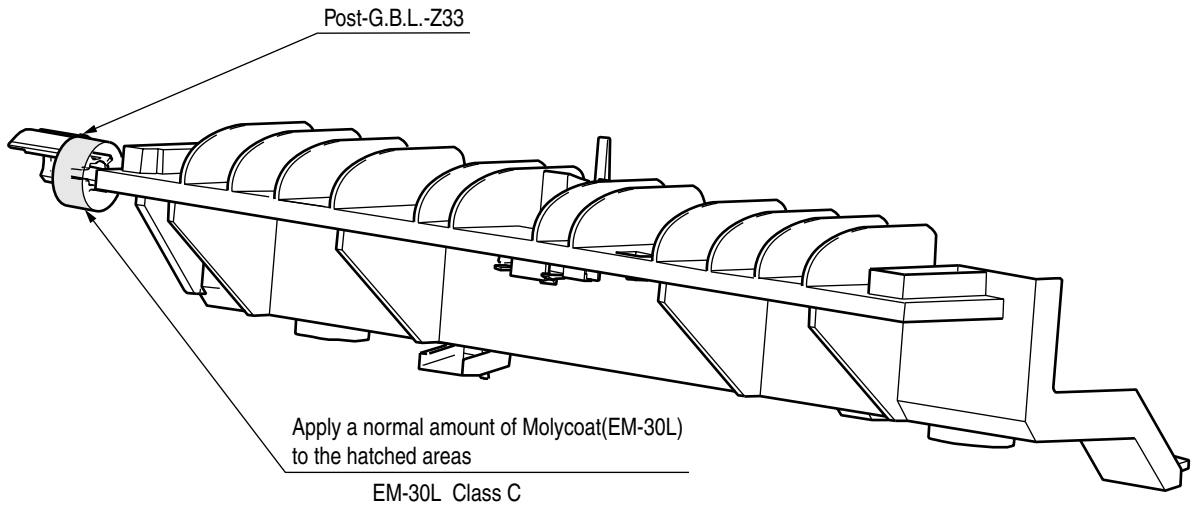


⑩ 42064301 Guide-Assy.-Eject-U

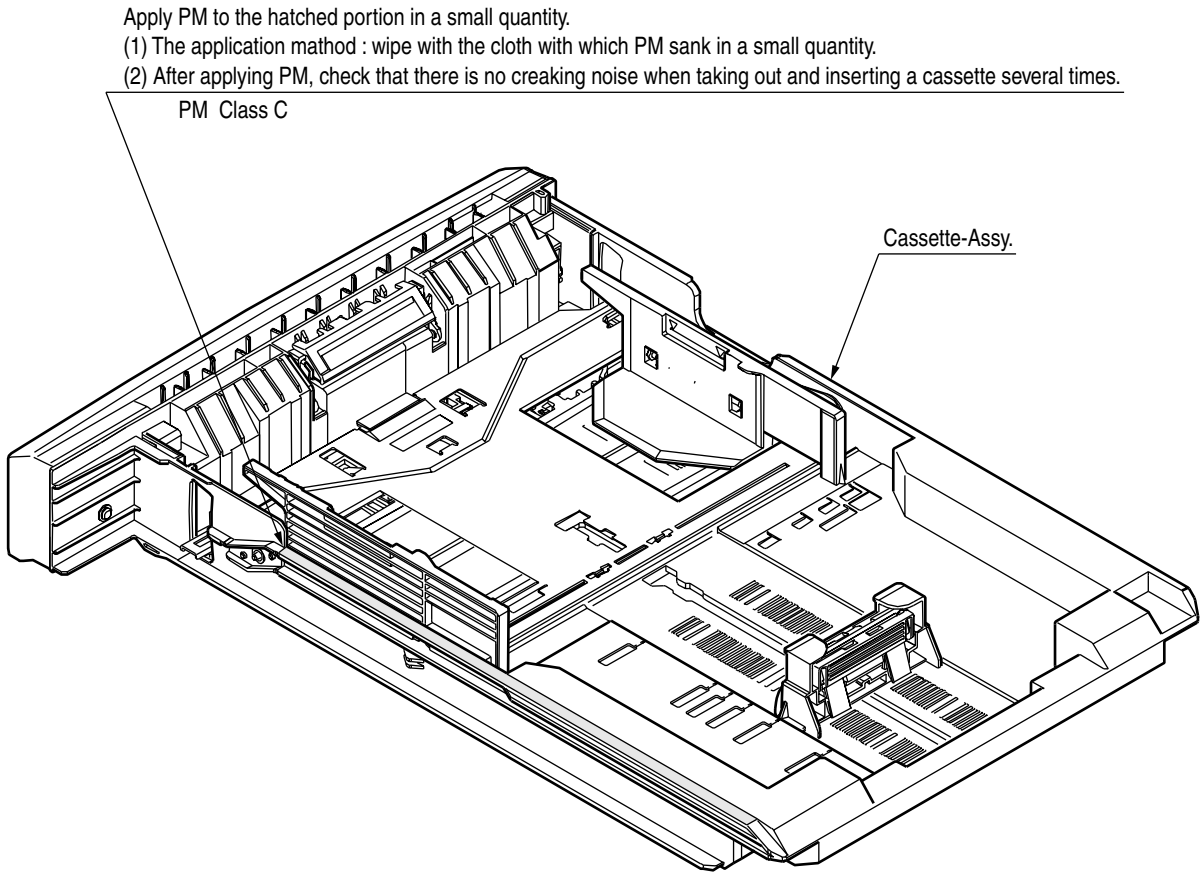




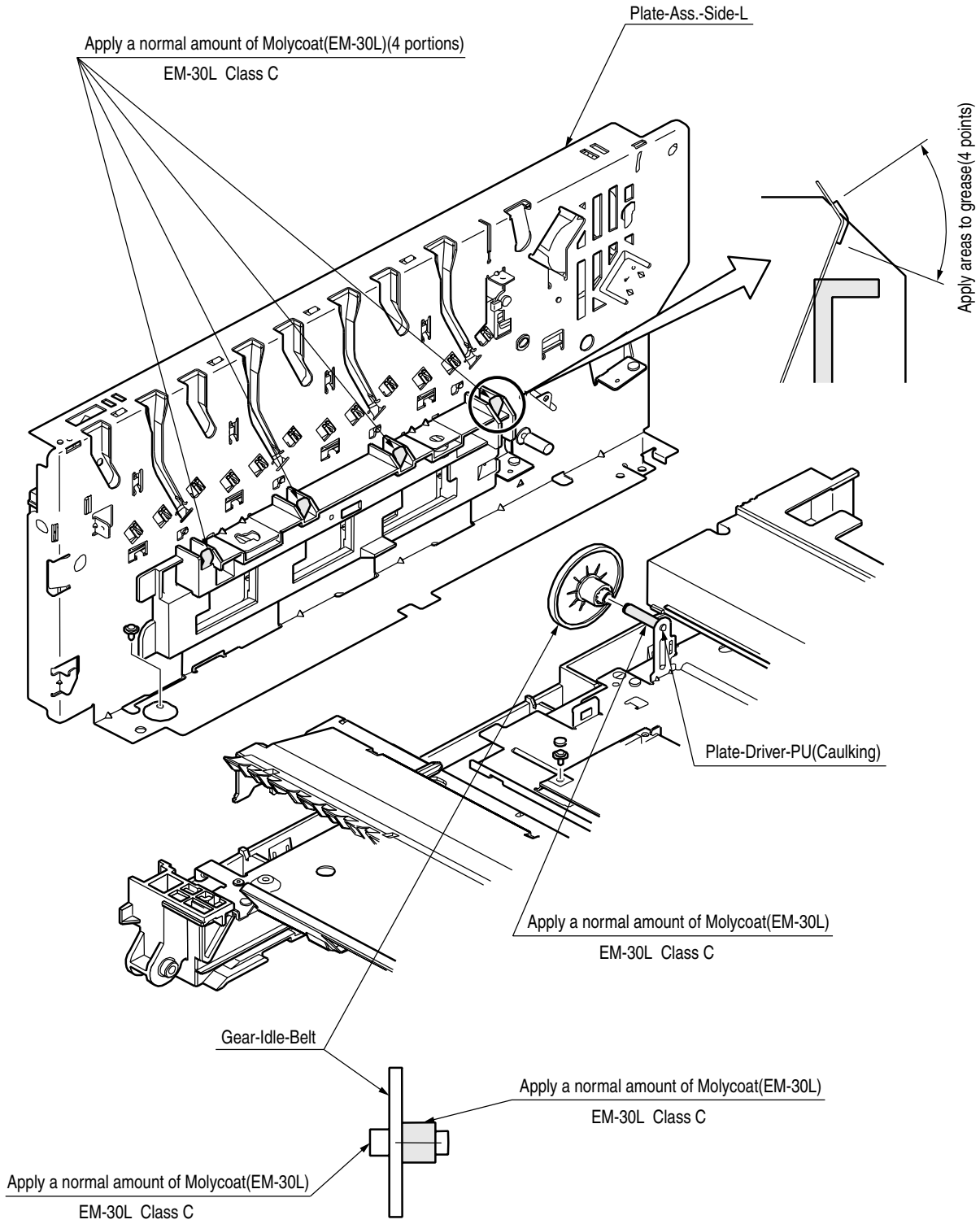
⑪ 42621601 Guide-Assy.-Eject-L



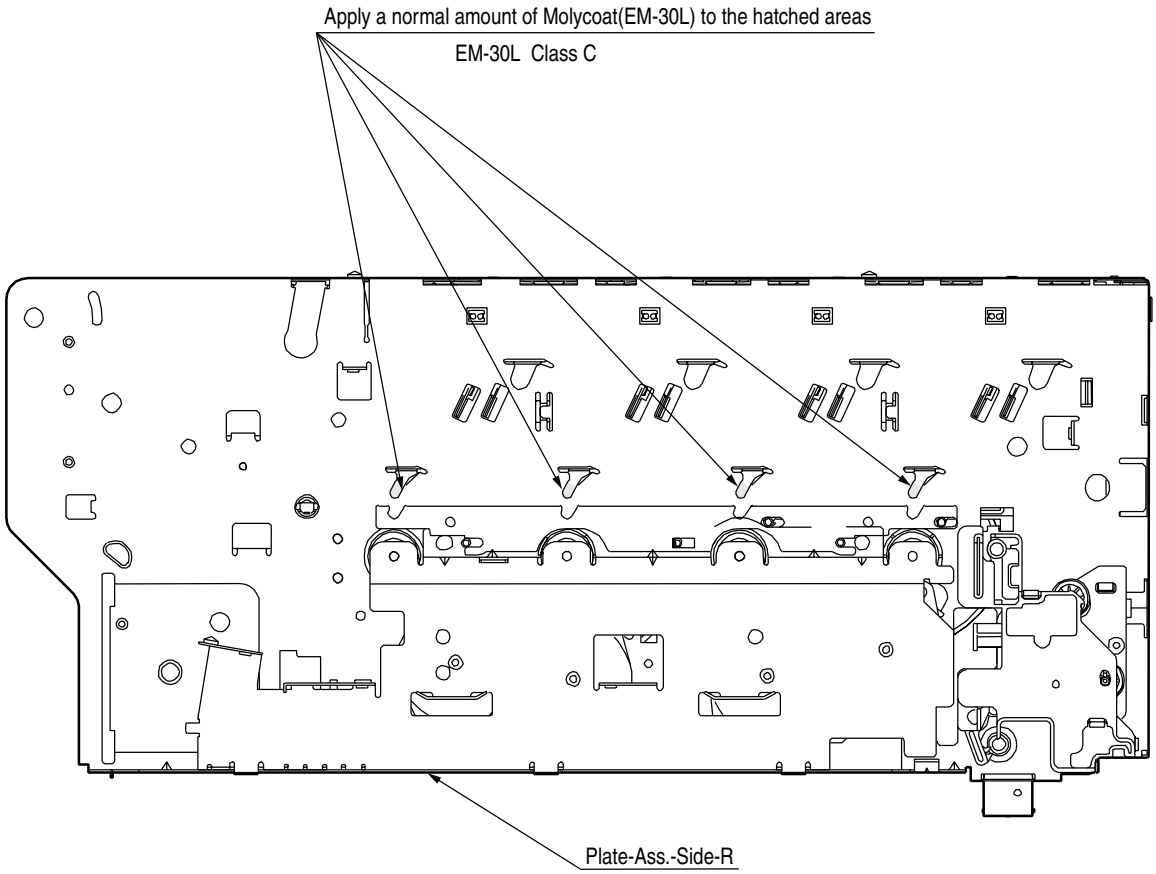
⑫ 42464901 Frame-Assy.-Base

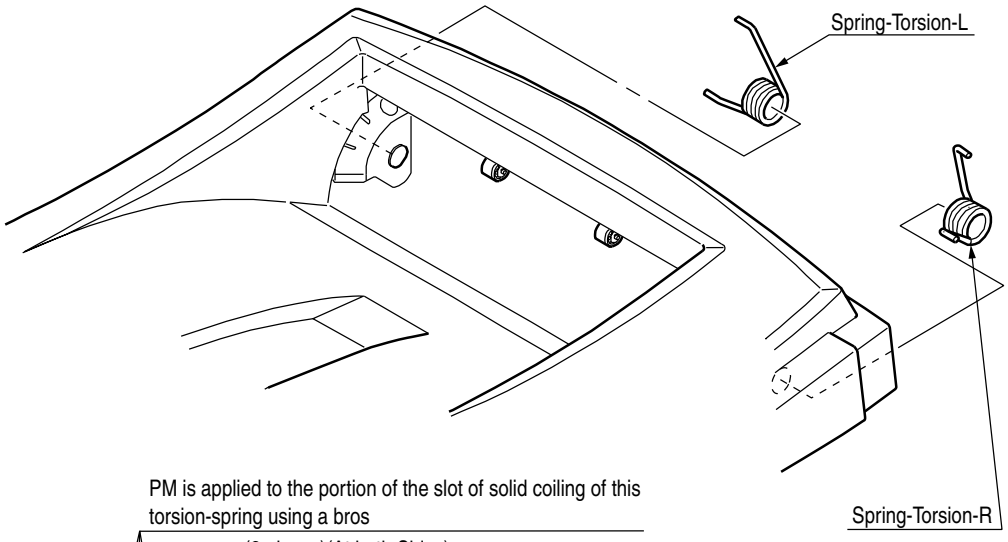


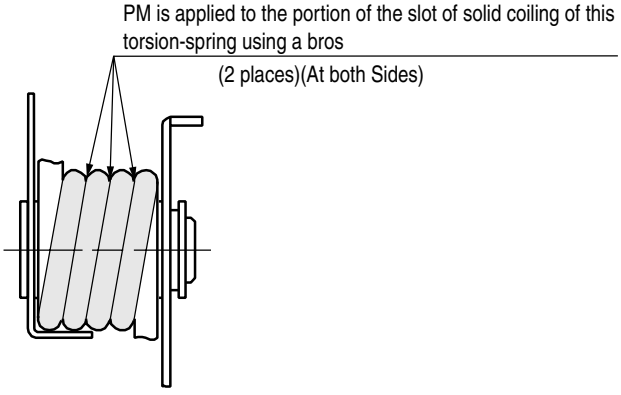
⑬-1 42621701 Printer-Unit-PX724



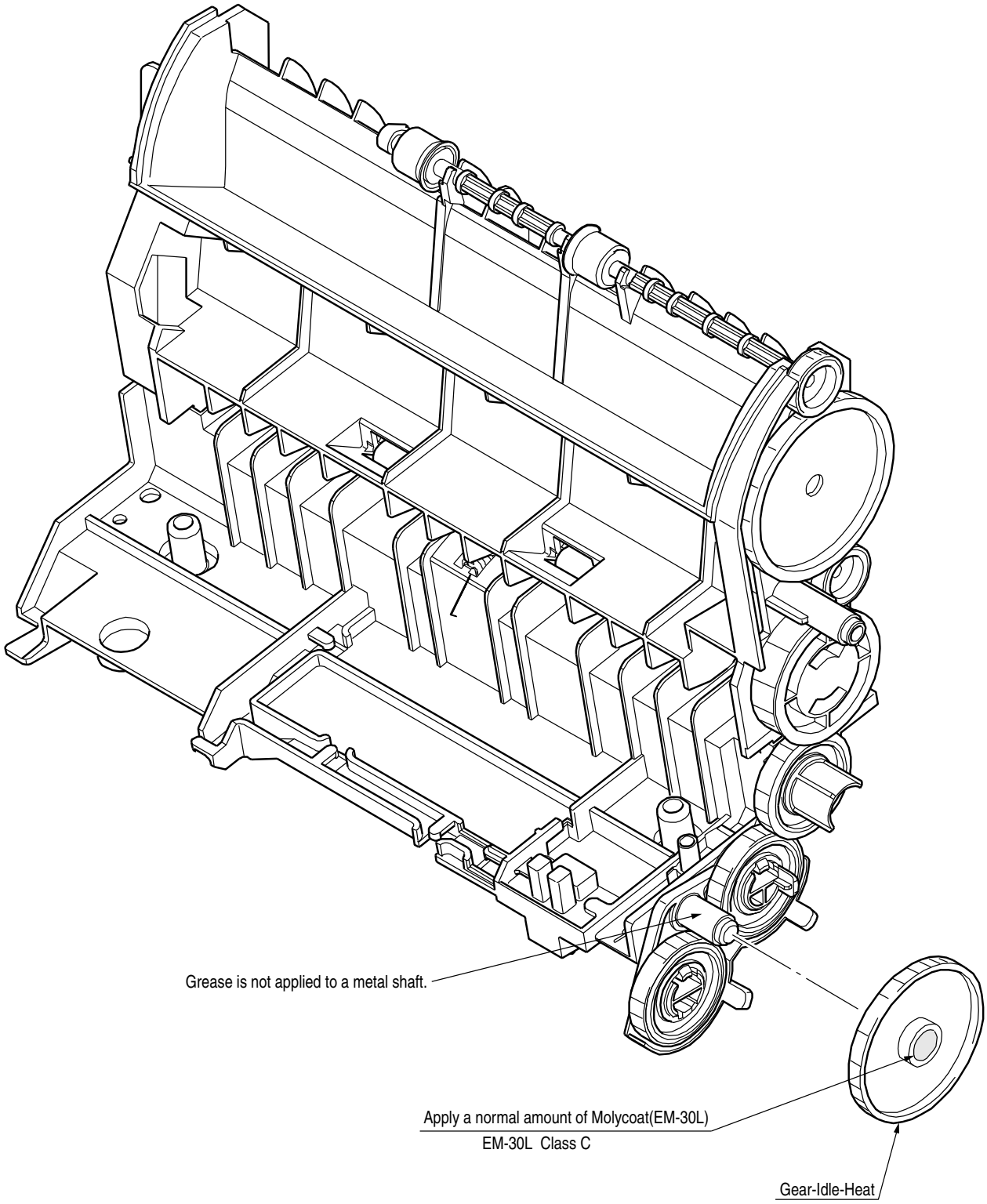
⑬-2 42621701 Printer-Unit-PX724



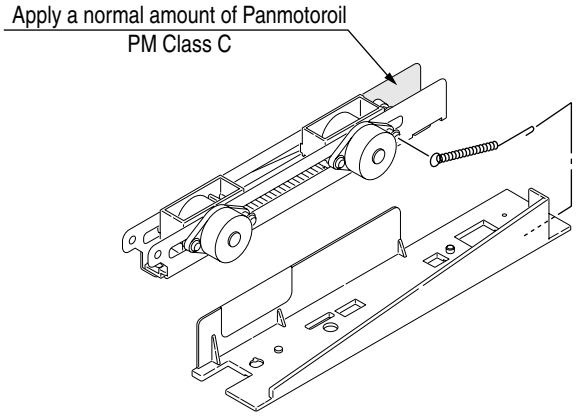




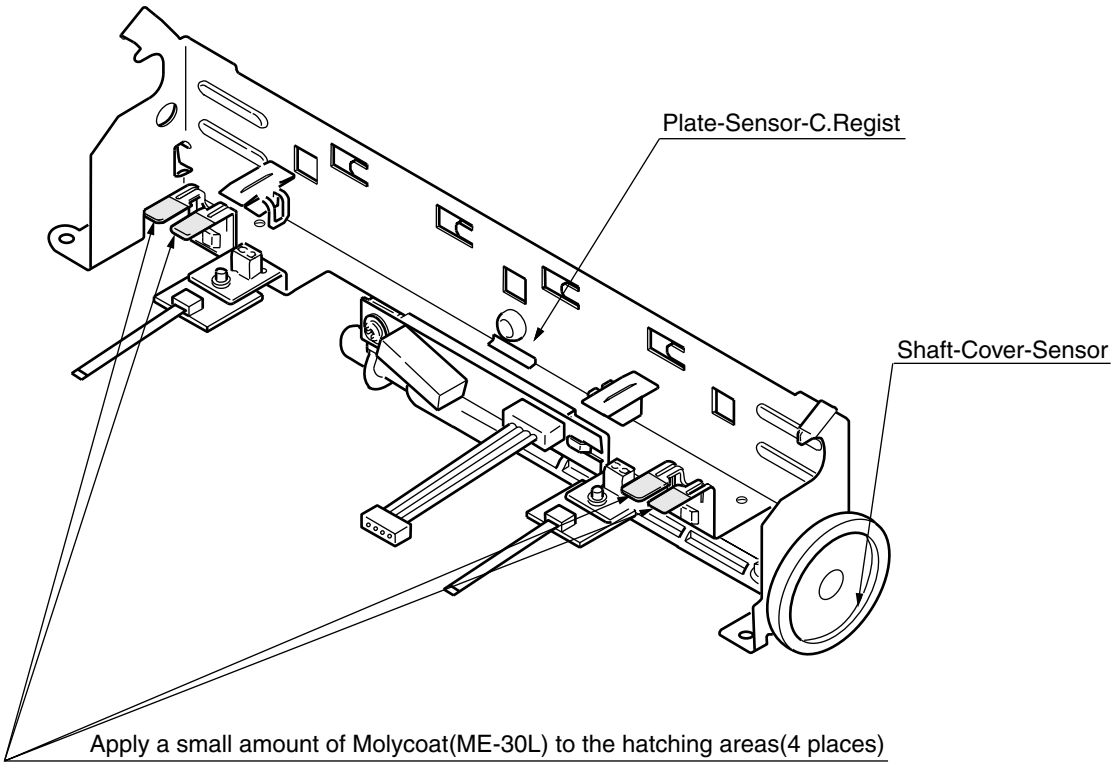
⑬-3 42621701 Printer-Unit-PX724

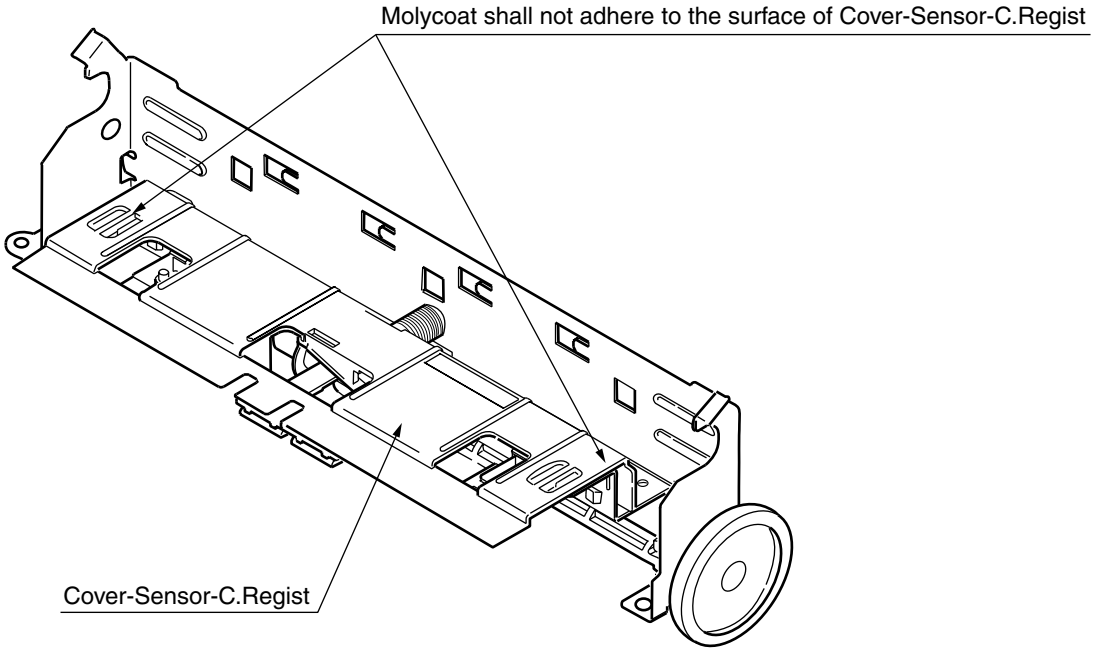


⑬-4 42621701PA Printer-Unit-PX724 (For C5540/C5510 Only)

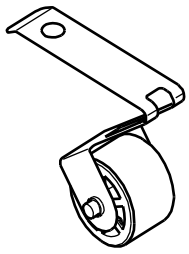


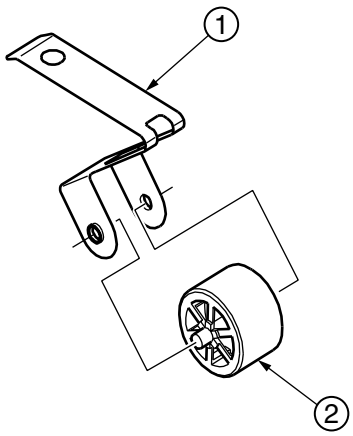
⑭ 42626501 Sensor-Assy-Color-Regist





⑮ 42076601 Roller-Assy.-Idle(FD)

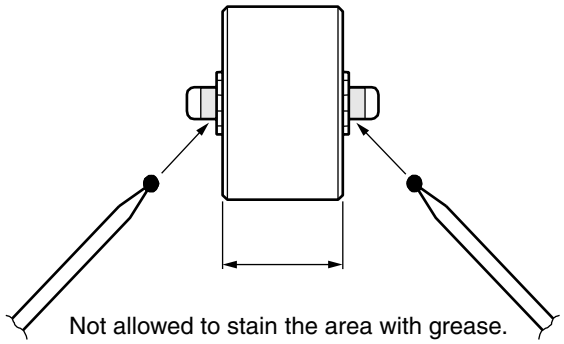




Exploded View

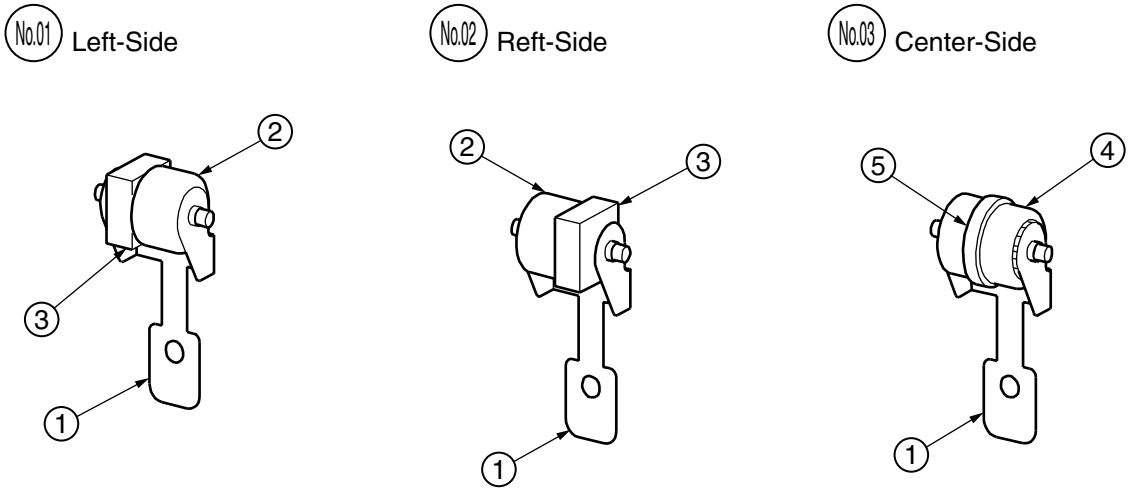
Method of amount of grease

Before ① assemble at ②, apply small amount of Molycoat(EM-30L) to the sliding portions(hatching portion) of ① and ②.(Class S)

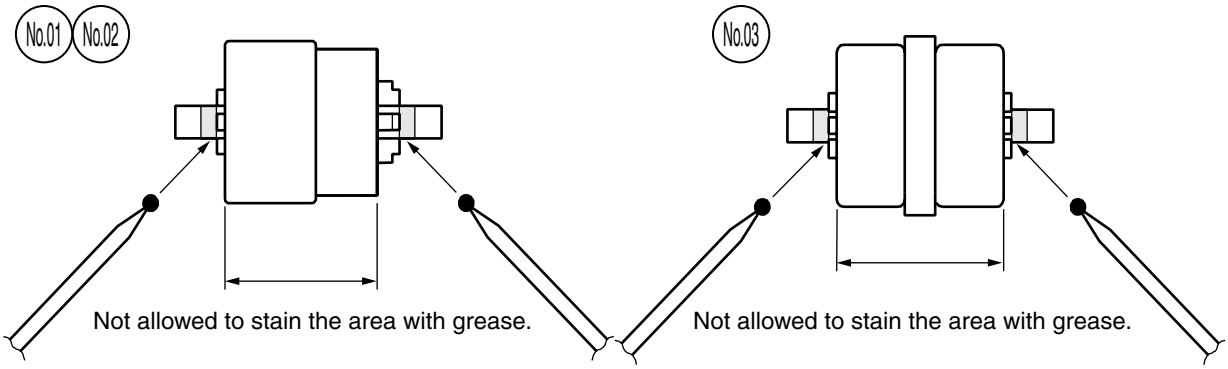


Not allowed to stain the area with grease.

⑯ 42077801 Roller-Assy.-BIAS(FU)L

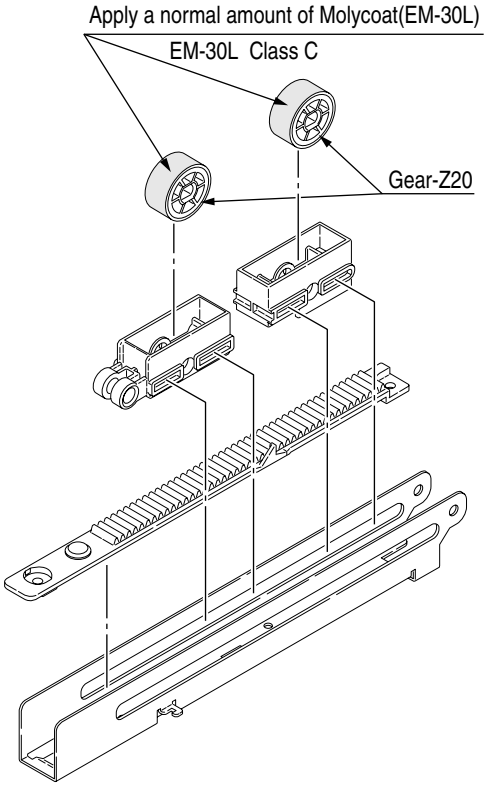


Method of amount of grease



After ② or ④ assemble at ③ or ⑤, apply small amount of Molycoat(EM-30L) to the sliding portions(hatching portion) of ② and ④.(Class S)

⑰ 43016101 Lower-Assy.-R (For C5540/C5510 Only)



5. MAINTENANCE MENU

Adjustments of C5450/C5400/C5250/C5200/C5150/C3200n/C3200/C3100 printers can be made using maintenance utility software and key input from their operator panels. In addition to a standard menu, there is a maintenance menu in the display of their operator panels. The menu that serves the purpose of intended adjustment is to be selected.

5.1 System Maintenance Menu(For Maintenance Staff)

Turning on printer power while holding the MENU+ and MENU- keys down activates System Maintenance menu. The menu is only displayed in English on a printer to any destination.

Note! System Maintenance menu, from which settings such as printer destinations can be changed, is hidden from user's view.

Table 5-1 Maintenance Menu Display Table

Category	Item(1st Line)	Value(2nd Line)	DF	Function
OKIUSER	OKIUSER	ODA OEL APS JP1 JPOEM1 OEMA OEML		Sets Brand and Destination. JPOEM1: Japan OEM OEMA: Overseas OEM for A4 default OEML: Overseas OEM for Letter default Boots up automatically when a brand is selected.
MAINTENANCE MENU	HDD FORMAT	EXECUTE		Format for HDD. Process as same as connecting for new HDD.
	FLASH FORMAT	EXECUTE		Format for Resident FLASH. NIC Program is elased.
	MENU RESET	EXECUTE		Sets factory default for EEPROM of CU board.
CONFIG MENU	CODESET	TYPE1 TYPE2	* *	This menu is displayed in every distribution channel. TYPE1: Russian/Greek do not appear. TYPE2: Russian/Greek appear. When you select TYPE2, LANGUAGE selections in SYS CONFIG MENU in USER MENU display RUSSIAN and GREEK. (The value change is enabled after rebooting.) TYPE2 is the default for OEL/APS/OEMA; TYPE1 is the default for the other distribution channel.
ENG STATUS PRINT	ENG STATUS PRINT	EXECUTE		Selecting by the ENTER key, then pressing the On-line switch will prompt initialization and printing Engine information.
TEST PRINT MENU (C5400)	TEST PRINT MENU	ENABLE DISABLE	* 	Switches ENABLE and DISABLE to display the TEST PRINT MENU category in the User Menu.
PAGE CNT PRINT	PAGE CNT PRINT	ENABLE DISABLE	 *	Sets printing or not printing the total page count in PRINT MENU MAP.

Category	Item(1st Line)	Value(2nd Line)	DF	Function
FUSE KEEP MODE	FUSE KEEP MODE	EXECUTE		By pressing the ENTER key, a command is issued from CU to PU and the device becomes ON LINE. This mode is used when confirmation of operation is needed using new consumables as the factory default at the users.(When comparing to the old products etc.) The fuse of the new consumables is not cut if this mode is used, and also operation count is not added to values of the old one. This mode should be finished in power-off and make sure to turn off the power after working in FUSE KEEP MODE since it will be invalid in next power-on.
PERSONALITY (C5450/C5400)	PCL	ENABLE DISABLE	*	Changes the default PDL language for each brand. PDLs that are disabled in this menu will not be displayed on User Menu's or Admin Menu's PERSONALITY. When print data in the PDL language set to DISABLE is received, the printer will display INVALID DATA and discard received data. PX725: Cannot disable PS3 (PostScript). Same as PX711/ 713.(Only menu is implemented for future expansion.) When PCL is set to DISABLE, the data of HP-GL/2 or PCL XL will not be printed even though it is set to ENABLE. The data is processed as invalid. Setting ENABLE to IBM PPR III XL or EPSON FX in Japanese brands will not assure the normal operation. Setting ENABLE to ESPC/ P in overseas brands will not assure the normal operation.
	IBM PPR III XL	ENABLE DISABLE	*E *J	
	EPSON FX	ENABLE DISABLE	*E *J	
	PS3 EMULATION (PX725)	ENABLE DISABLE	*	
	ESC/ P	ENABLE DISABLE	*	
	HP-GL/2	ENABLE DISABLE	*JE	
	PCL XL	ENABLE DISABLE	*JE	

Category	Item(1st Line)	Value(2nd Line)	DF	Function
ESC/ P EMULATION (Not available for overseas model)	nSelectin	DISABLE ENABLE	*	Specifies the function of SELECT IN signal for DC1, DC3 command. When “ENABLE” is selected, if SELECT IN signal is high level in power on sequence, DC1, DC3 command is effective. When “DISABLE” is selected, DC1, DC3 command is ignored all the time (SELECT IN signal is LOW level only). Even if “EMULATION” setting of “SYS CONFIG MENU”is “AUTO”, this item is effective in ESC/ P Emulation.
	NAutoFd	DISABLE ENABLE	*	Specifies the function of AUTO FEED XT signal. When “ENABLE” is selected, if AUTO FEED XT signal is low level in power on sequence, Line feed for CR code is performed. When “DISABLE” is selected, line feed for CR code is not performed (AUTO FEED XT signal is HIGH level only). Even if “EMULATION” setting of “SYS CONFIG MENU”is “AUTO”, this item is effective in ESC/ P Emulation.
	IMAGE	REGULAR PHOTO	*	Specifies the conversional method of transformation from 180dpi to 300dpi.
NETWORK				Not displayed.
ENGINE DIAG MODE				Enters engine self-diagnostic mode.

Switch operations and LCD display in the engine self-diagnostic mode differ from the operations of the printer.
Refer to Section 5.4.2 Self-diagnostic Mode.

5.2 Maintenance Utility

Maintenance utility software is used to make adjustments shown in table 5-2. Refer to the following for details on the maintenance utility software.

1) Maintenance utility operating manual : 42678801FU01 Rev.5 or later(Japanese version)
: 42678801FU02 Rev.5 or later(English version)
2) Program of the maintenance utility is as below.
* It is possible to download a program of the maintenance utility.
(Person in charge of the manual, Window Person is available to access.)

Applicable Operating System	File Name	Part Number
Win9xMe (Japanese/English version)	MuWin_Win9x.zip	42678801FW01 Rev.5 or later
WinNT/2000/XP (Japanese/English version)	MuWin_WinNT.zip	42678801FW02 Rev.5 or later

Table 5-2 Maintenance Utility Adjustment Items (1/3)

	Item	Adjustment	Section No. of the Maintenance Utility Operation	Operation on Operator Panel (Section No. corresponds to the Maintenance manual)
1	PU (PRN) Board Replacement	Copying EEPROM of the PU board Copying LED head correction data*1 Adjustment Purpose: Copy the above data to another board when it is necessary to replace to another PU board due to maintenance replacement	Section 2.4.1.1.1 Section 2.4.2.1.1 when there is a copy of LED head correction data	Invalid operation
2	PU Serial Number Setting	Reprogramming printer serial number recorded on PU Adjustment Purpose: Set for a board replaced for maintenance when it is impossible to copy EEPROM of the PU board (I/F error etc.)	Section 2.4.1.1.2.1	Invalid operation
3	Factory/Shipping Mode	Change between Factory mode and Shipping mode Adjustment Purpose: Set for a board replaced for maintenance when it is impossible to copy EEPROM of the PU board (I/F error etc.) In this function, Shipping mode is needed since a board for maintenance is usually Factory mode as the default	Section 2.4.1.1.2.2 Section 2.4.1.1.6.4	Section 5.4.2.10
4	Download of LED head correction data*1	Programming of LED head correction data Adjustment Purpose: Download correction data prepared by the outside for the device when a head not having EEPROM for correction inside the head is used (Fig No.42631901)	Section 2.4.2.1.2.1	Invalid operation
5	CU (ARC/SPY/SPA) Board Replacement	Reprogramming an EEPROM setting value of the CU board Adjustment Purpose: Reprogram EEPROM data to another board when it is required to exchange to another CU board for maintenance replacement	Section 2.4.1.1.3	Invalid operation
6	Setting of Serial Number Information	Reprogramming serial number selection recorded in CU, output mode, and device serial number	Section 2.4.1.1.4.3	Invalid operation
7	Setting Information of Board Items	Check of serial number information and Factory/Shipping mode	Section 2.4.1.1.7	Invalid operation
8	Update of USB Software	Updating USB Software	Section 2.4.2.2.1	Invalid operation
9	Update of NIC Software	Updating NIC Software	Section 2.4.2.2.2	Invalid operation
10	Update of NIC Web Page	Updating NIC Web Page	Section 2.4.2.2.3	Invalid operation
11	Mac Address Setting	Mac Address Setting	Section 2.4.2.2.4	Invalid operation

Table 5-2 Maintenance Utility Adjustment Items (2/3)

	Item	Adjustment	Section No. of the Maintenance Utility Operation	Operation on Operator Panel (Section No. corresponds to the Maintenance manual)
12	Consumable Counter Maintenance Function	Copying the consumable counter Drum counter (Y, M, C, K) Fuser counter Belt counter Toner counters (Y, M, C, K) Adjustment Purpose: Copy each consumable counter value when using in-use consumables to another device	Section 2.4.1.2.1	Invalid operation
13	Color Print Density Sensor Sensitivity Calibration Value Setting [Prohibited to use]	Setting of Color print density sensor sensitivity calibration value	Prohibited to use	Prohibited to use
14	LED Head Correction Data Swap*1	Swap in the device which stored LED head correction data Adjustment Purpose: Implement when it is required to replace a LED head in the device	Section 2.4.2.2.7.1	Invalid operation
15	Download of LED head correction data*1	Reprogramming of LED head correction data Adjustment Purpose: Download correction data prepared by the outside for the device when a head not having EEPROM for correction inside the head is used (Fig No.42631901)	Section 2.4.2.2.7.2	Invalid operation
16	Display of LED Head Serial Number*1	Check of LED head serial number	Section 2.4.2.2.7.3	Section 5.4.2.13
17	Destination/PnP data Setting	Check/setting of destination of the printer (CU), device ID, USB ID	Section 2.4.1.2.6	Section 5.5.3
18	Display of the Consumable Counter	Confirmation of the current value of the consumable counter	Section 2.4.1.3.1	Section 5.1 ENG STATUS PRINT
19	Check of Menu Settings	Displaying each menu setting value specified in the printer (CU)	Section 2.4.1.3.2	Menu Map Printing (See User's manual)
20	Check of Printer Information	Check of Mac address of the printer and each FW version	Section 2.4.1.3.3	Menu Map Printing (See User's manual)
21	Check of contained CPU and Memory value	Checking CPU information and memory information contained in the printer (CU)	Section 2.4.1.3.4	Menu Map Printing (See User's manual)
22	Test Printing	Performing local print function and printing specified file Adjustment Purpose: Check operation of the single printer and send a download file	Section 2.4.1.4.1	Each local printing (See System Specifications)

Table 5-2 Maintenance Utility Adjustment Items (3/3)

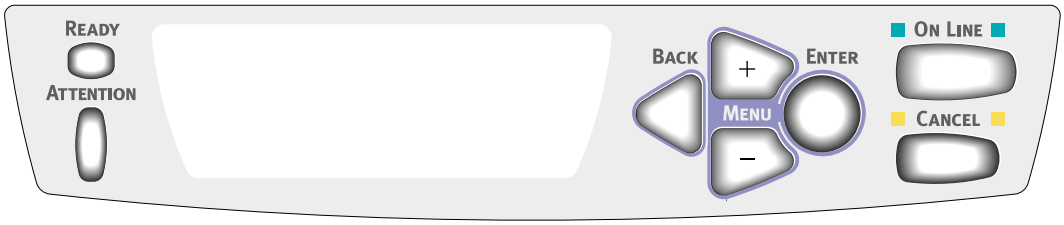
	Item	Adjustment	Section No. of the Maintenance Utility Operation	Operation on Operator Panel (Section No. corresponds to the Maintenance manual)
23	Switch Scan Test*2	Executing the switch scan test Adjustment Purpose: Check operation of each sensor	Section 2.4.1.5.1	Section 5.4.2.3
24	Motor and Clutch Test*2	Executing of motor and clutch test Adjustment Purpose: Check operation of each motor and clutch etc	Section 2.4.1.5.2	Section 5.4.2.4
25	Color Registration Test*2	Executing color registration test	Section 2.4.1.5.3	Section 5.4.2.6
26	Density Adjustment Test*2	Executing density adjustment test	Section 2.4.1.5.4	Section 5.4.2.7
27	Setting of Auto Density Adjustment Controller Parameter*2 [Prohibited to use]	Setting of auto density adjustment controller parameter	Prohibited to use	Prohibited to use
28	NVM Initialization*2 [Prohibited to use]	Initializing NVM	Prohibited to use	Prohibited to use
29	Counter Display*2	Confirming consumables, consumable records and waste toner counter	Section 2.4.1.5.7	Section 5.4.2.8 Section 5.4.2.9 Section 5.4.2.12
30	Local Parameter Setting*2	Confirming change a mode between Factory and Shipping mode and a Fusing state	Section 2.4.1.5.8	Section 5.4.2.10
31	Engine Parameter Setting*2	Setting a setting value of Engine parameter items	Section 2.4.1.5.9	Section 5.4.2.11

*1 Restriction of Functions.

*2 Operation is available only for C3200/C3100 (A model without an operator panel)

Note! Do not perform operations or settings for items of [Prohibited to use], or an improper operation may be result.

5.3 Changing the display language



1. Press MENU+ repeatedly until you see.

SYS CONFIG MENU

2. Press ENTER.
3. Press MENU+ repeatedly until you see.

LANGUAGE
ENGLISH

4. Press ENTER.
5. Press MENU+ and / or MENU- repeatedly until you see the language you wish to select.
6. Press ENTER to select this language.
7. Press ON LINE to exit the menu and return the printer to standby.

The LCD display language can be changed to any of these languages:

English	Dutch
German	Turkish
French	Portuguese
Italian	Braz Portuguese
Spanish	Polish
Swedish	Russian (OEL/APS brand only)
Norwegian	Greek (OEL/APS brand only)
Danish	

5.4 Maintenance Menu Function of the User Menu

5.4.1 Maintenance Menu(For End-Users)

Maintenance menu is contained in a standard menu category.
(It is different from the system maintenance menu.)
Items that can be set from Maintenance menu are as follows:

Maintenance Menu

Values in shaded areas are initial settings.

Category	Operator Panel Display		Function
	Item (Upper Display)	Value (Lower Display)	
Maintenance Menu	MENU RESET	EXECUTE	Initializes menu settings.
	SAVE MENU	EXECUTE	Stores current menu settings.
	RESTORE MENU	EXECUTE	Changes menu settings to stored ones. Displayed only when menu settings have been stored.
	POWER SAVE	ENABLE DISABLE	Sets Power Save mode enabled/disabled. Shift time to enable Power Save mode can be changed using "POWER SAVE SHIFT TIME" on "SYSTEM CONFIG. MENU".
	PAPER BLACK SET	0 +1 +2 -2 -1	Corrects print nonuniformity due to temperature variation. With faded images, change the value. With scattering or snowing images in print output of high print density, decrement the value. With faded images in print output of high print density, increment the value.
	PAPER COLOR SET	0 +1 +2 -2 -1	Corrects print nonuniformity due to temperature variation. With faded images, change the value. With scattering or snowing images in print output of high print density, decrement the value. With faded images in print output of high print density, increment the value.
	TRANSPR BLACK SET	0 +1 +2 -2 -1	Corrects print nonuniformity due to temperature variation. With faded images on transparency sheets, change the value. With scattering or snowing images in print output of high print density, decrement the value. With faded images in print output of high print density, increment the value.
	TRANSPR COLOR SET	0 +1 +2 -2 -1	Corrects print nonuniformity due to temperature variation. With faded images on transparencies, change the value. With scattering or snowing images in print output of high print density, decrement the value. With faded images in print output of high print density, increment the value.

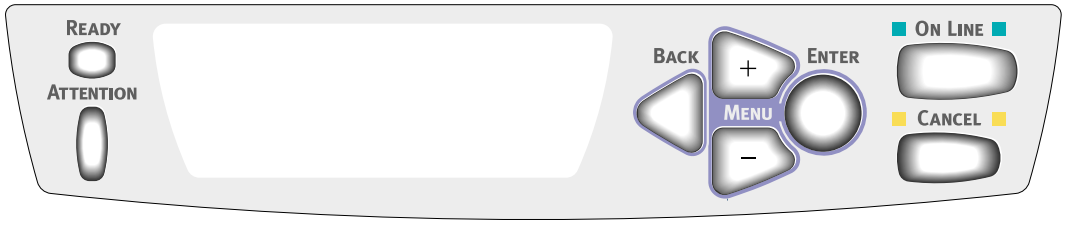
5.4.2 Self-diagnostic Mode

Explanation for each LEVEL 0 and LEVEL 1.

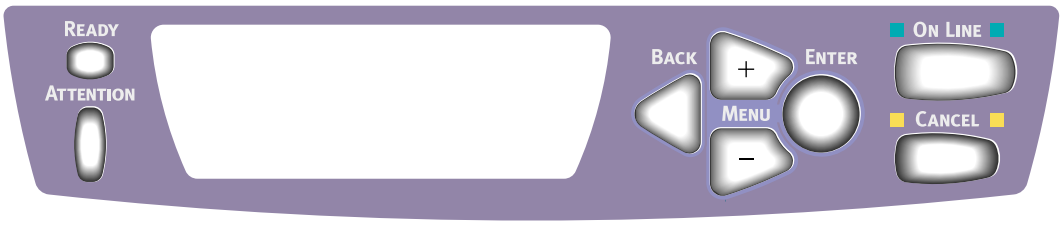
5.4.2.1 Operator panel

Operating descriptions on self-diagnosis are premised on the following operator panel layout.

For ODA



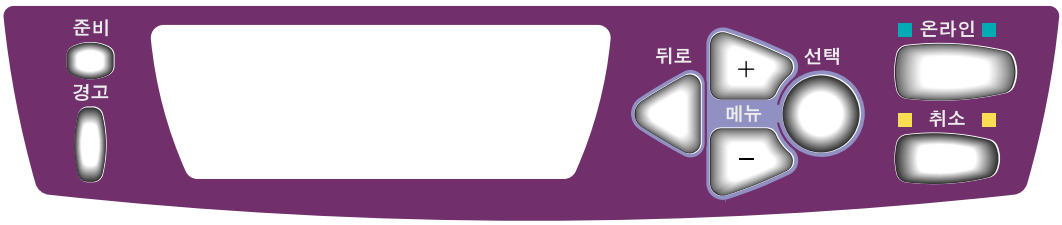
For OEL/AOS



For China



For Korea



For Taiwan



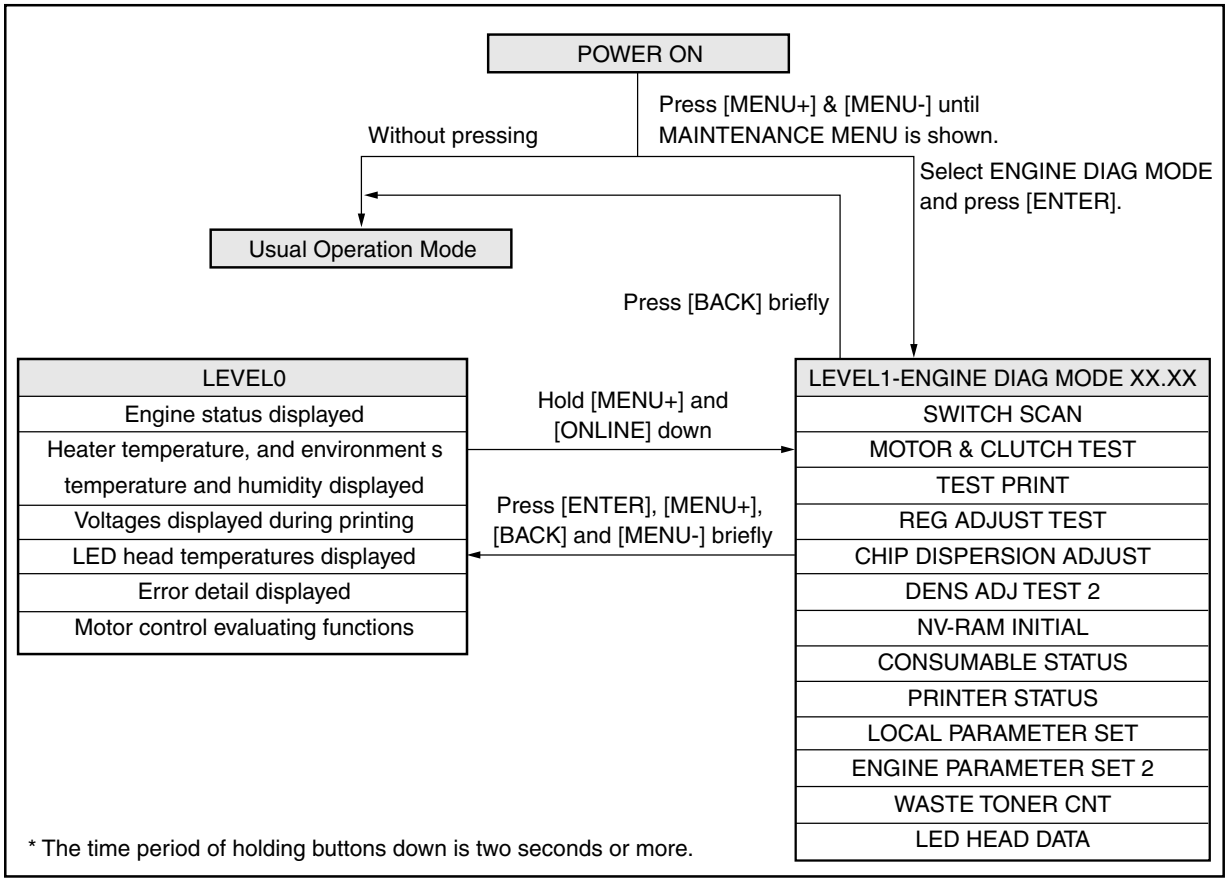
Self-diagnostic Mode Layout (Whole)

(1) Displaying Next or Previous Menu Items

XXXXX
XXXXX

: Only levels being highlighted in green can change to their next or previous levels.

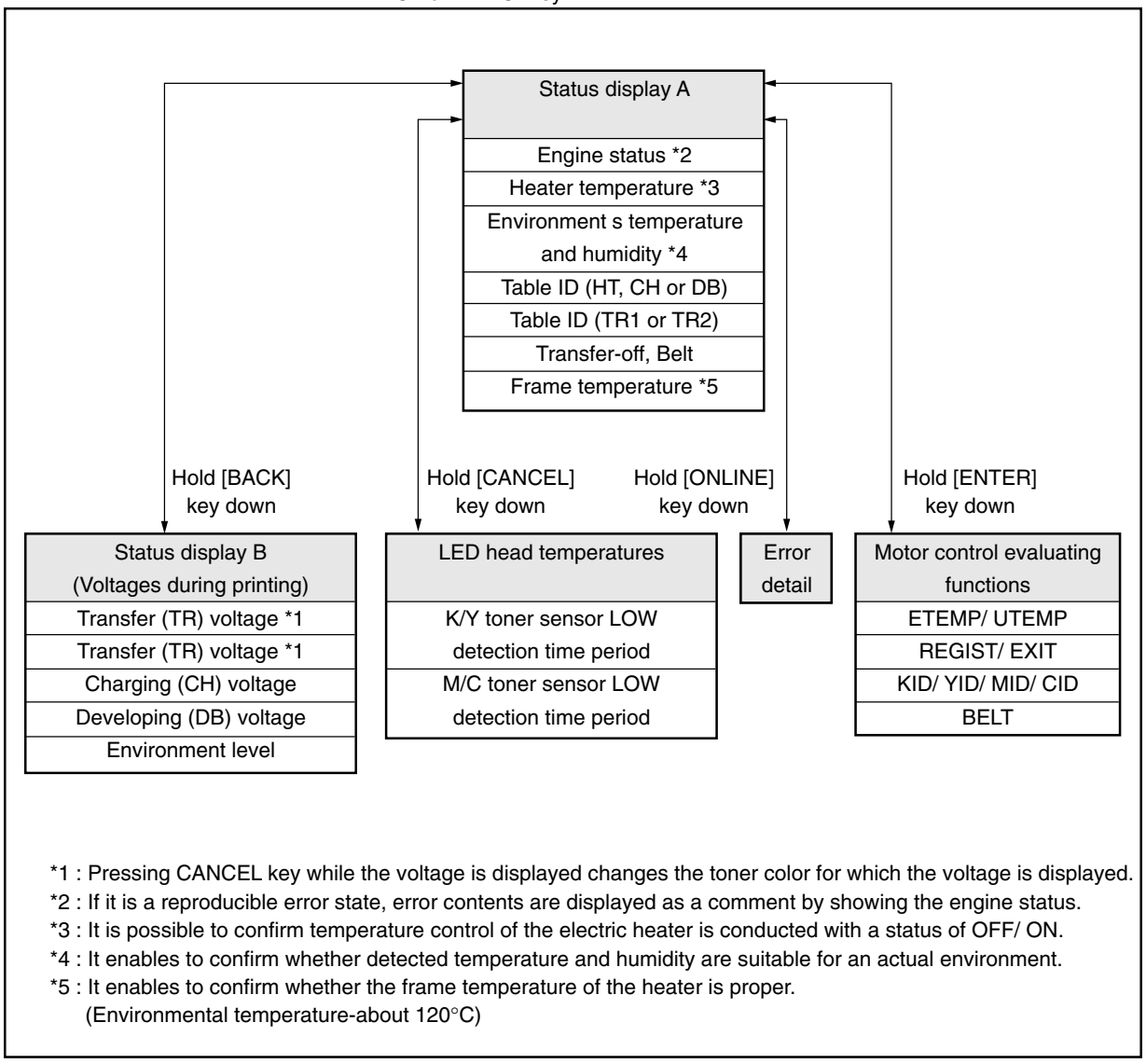
: The next or previous item of an item being non-highlighted can be displayed using [MENU+] or [MENU-] key.



LEVEL0

(1) Displaying Next or Previous Menu Items

XXXXX	: The next or previous level of a level being highlighted in green can be displayed by holding ENTER, BACK, CANCEL or ONLINE down.
XXXXX	: The next or previous item of an item being non-highlighted can be displayed using MENU+ or MENU- key.



*1 : Pressing CANCEL key while the voltage is displayed changes the toner color for which the voltage is displayed.
*2 : If it is a reproducible error state, error contents are displayed as a comment by showing the engine status.
*3 : It is possible to confirm temperature control of the electric heater is conducted with a status of OFF/ ON.
*4 : It enables to confirm whether detected temperature and humidity are suitable for an actual environment.
*5 : It enables to confirm whether the frame temperature of the heater is proper.
(Environmental temperature-about 120°C)

LEVEL1

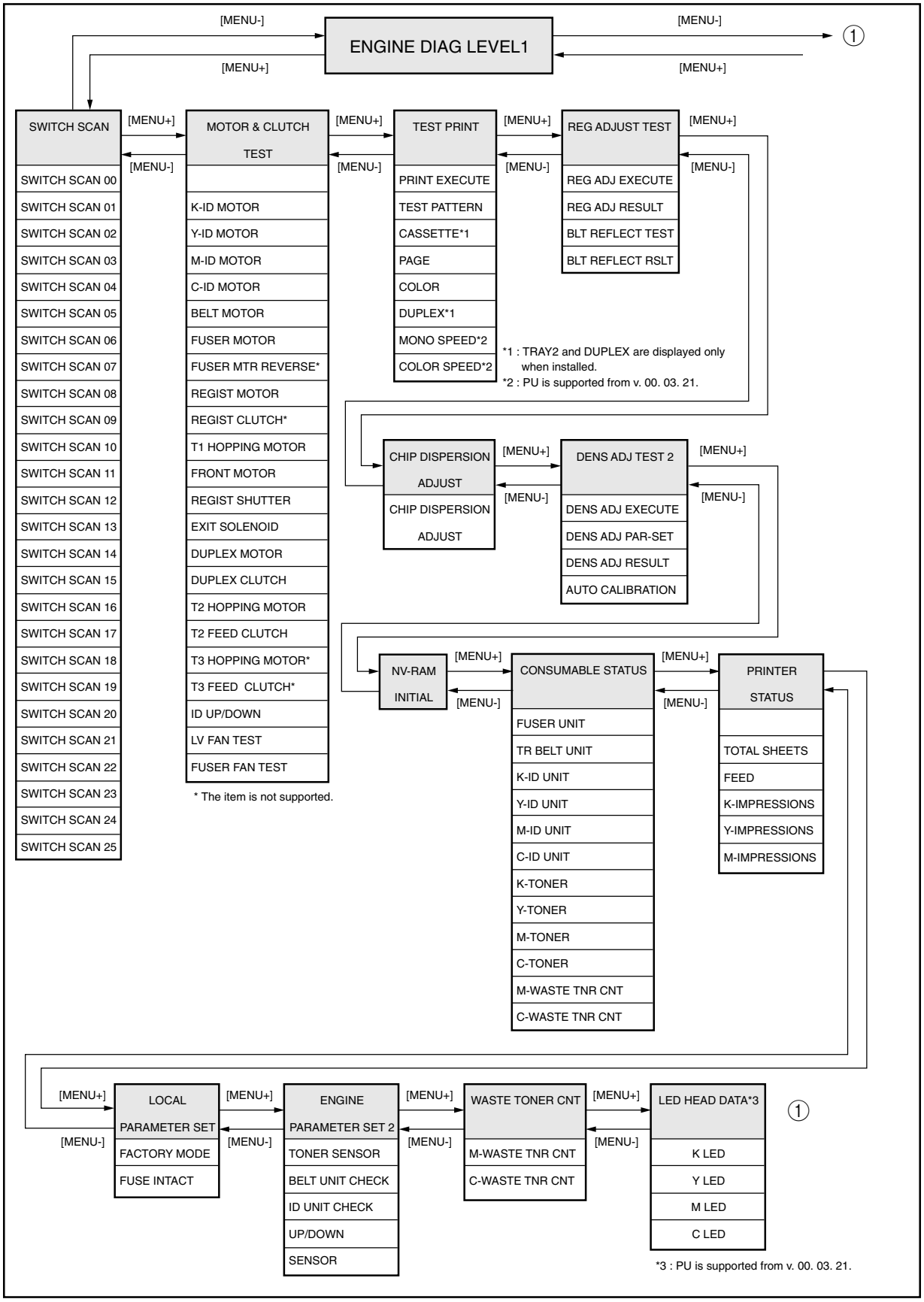
(1) Displaying Next or Previous Menu Items

XXXXX
XXXXX

: The next or previous level of a level being highlighted in green can be displayed using MENU+ or MENU- key.

: The next or previous item of an item being non-highlighted can be displayed using MENU+ or MENU- key after accepting with the press of ENTER key the item being displayed.

Pressing ENTER key starts the accepted test and pressing the CANCEL key ends the accepted or started test.



5.4.2.2 Normal self-diagnostic mode (level 1)

The following is the menu of a normal self-diagnostic mode.

Table 5-3 Maintenance Utility Adjustment Items(1/2)

	Item	Self-diagnosis Menu	Adjustment	Maintenance Utility	
				C3200/C3100 (Without a Panel)	C5250/C5200/ C5150/C3200n, C5450/C5400 (With a Panel)
1	Switch Scan Test	SWITCH SCAN	Checking input sensor and switches	No.23	Invalid operation
2	Motor and Clutch Test	MOTOR & CLUTCH TEST	Testing operations of the motor and clutch	No.24	Invalid operation
3	Test Printing	TEST PRINT	Printing internal test patterns of PU	Invalid operation	Invalid operation
4	Color Registration Adjustment	REG ADJUST TEST	Judging print registration adjustment mechanism	No.25	Invalid operation
5	Print Density Adjustment Calibration Chip Density Value Setting [Prohibited to use]	CHIP DISPERSION ADJUST	Changing an adjustment value between Calibration Color chips	Invalid operation	Invalid operation
6	Density Adjustment Testing	DENSITY ADJUST TEST 2	Judging print density adjustment mechanism	No.26	Invalid operation
7	Setting of Auto color density adjustment control parameter	DENSITY ADJUST PAR-SET	Setting a control value of Auto density adjustment	No.27	Invalid operation
8	NVM Initialization [Prohibited to use]	NV-RAM INITIAL	Initializing of nonvolatile memory	Invalid operation	Invalid operation
9	Display of Consumable Counter	CONSUMABLE STATUS	Displaying consumables' life	No.29	Invalid operation
10	Display of Record Counter of All Consumables	PRINTER STATUS	Displaying count status of all consumable records in a printer	No. 29	Invalid operation

Note! Do not perform operations or settings for items of [Prohibited to use], or an improper operation may be result.

Table 5-3 Maintenance Utility Adjustment Items(2/2)

	Item	Self-diagnosis Menu	Adjustment	Maintenance Utility	
				C3200/C3100 (Without a Panel)	C5250/C5200/ C5150/C3200n, C5450/C5400 (With a Panel)
11	Switching between Factory and Shipping	LOCAL PARAMETER SET	Switching the PU mode for between Factory and Shipping	No.3, No.30	No.3, No.30
12	Confirmation of FUSE status		Displaying each Fuse status	No.30	Invalid operation
13	Engine Parameter Setting	ENGINE PARAMETER SET 2	Setting ENABLE/DISABLE of the error detection by each sensor	No.31	Invalid operation
14	Display of Waste Toner Counter	WASTE TONER CNT	Displaying waste toner count status of the toner cartridge (M, C etc.)	No.29	Invalid operation
15	LED Head Serial Number Display	LED HEAD DATA	Displaying a serial number of LED head data	No. 16	No.16

5.4.2.2.1 Entering self-diagnostic mode (level 1)

1. While holding the MENU+ and MENU- keys down at the same time, turn printer power on to enter System Maintenance mode.
2. Use MENU+ or MENU- key keystrokes until “ENGINE DIAG MODE” appears (a few keystrokes), and then press the ENTER key to display “DIAGNOSTIC MODE”.

DIAGNOSTIC MODE
XX.XX.XX FACTORY/SHIPPING

3. XX.XX.XX in the display indicates a PU FIRMWARE version. A factory working mode setting, which is usually set to S-MODE of SHIPPING, is at the right of the lower display.
4. Go to each self-diagnosis step by using the MENU+ or MENU- key (pressing the MENU+ or MENU- key rotates menu items).

5.4.2.2.2 Exiting self-diagnostic mode

1. Turn printer power off and, after ten seconds, on again.

5.4.2.3 Switch scan test

This self-diagnosis is used when input sensor and switch checking is made.

1. Enter the normal diagnostic mode, and press the MENU+ or MENU- key until “SWITCH SCAN” is shown on the upper display (the MENU+ key increments a test item and the MENU- key decrements a test item).

SWITCH SCAN

2. Table 5-4 lists SWITCH SCAN numbers. Press and the MENU+ or MENU- key until the SWITCH SCAN number for unit(s) to be tested shows up on the upper display (the MENU+ key increments an item and the MENU- key decrements an item).
3. In response to the press of the ENTER key, the test on the unit(s), the SWITCH SCAN number begins blinking and, carrying the current status of the unit(s) being tested, the number(s) (1 to 4) corresponding to the unit(s) are displayed.

SWITCH SCAN 00
1=H 2=L 3=H 4=L

   Operate the unit(s) (figure 5-1). Indications for each unit are provided in their portion of the LCD display (Indicated meanings vary with units (sensors etc). See table 5-4 for details).
4. When the CANCEL key is pressed, the SWITCH SCAN number goes back to an indication view (stops blinking).
5. Repeat steps 2 through 4 as necessary.
6. To end the test, press the BACK key (the display is restored to the view of step 1).

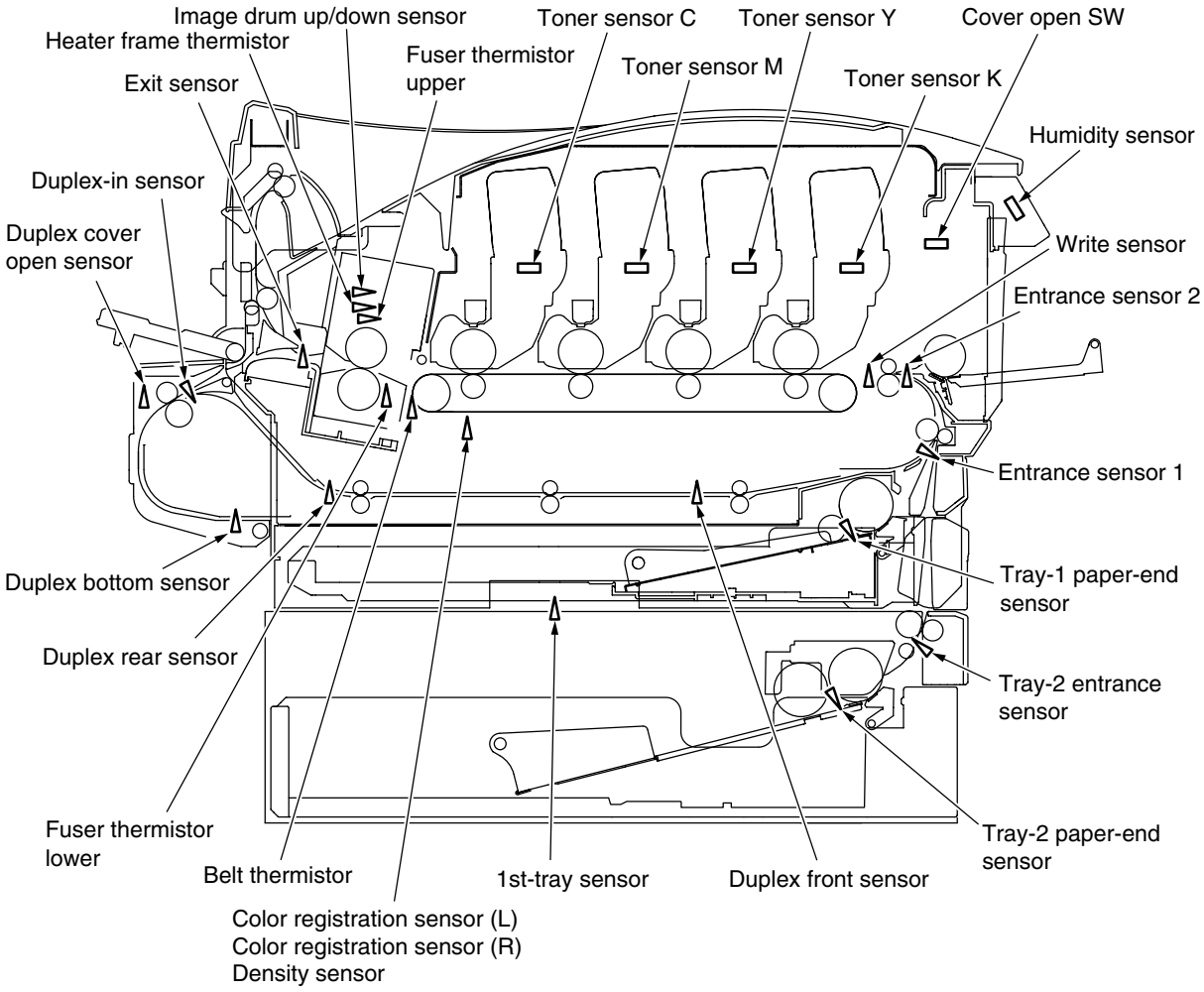


Figure 5-1 Switch Sensor Positions

Table 5-4 SWITCH SCAN Display Detail

ROW SCAN NO.	1	Display	2	Display	3	Display	4	Display
SWITCHSCAN00	Tray-1 paper-end sensor	L: Paper present H: Paper absent			Entrance sensor 1	L: Paper present H: Paper absent	Entrance sensor 2	L: Paper present H: Paper absent
SWITCHSCAN01	Write sensor	L: Paper present H: Paper absent	Exit sensor	L: Paper present H: Paper absent				
SWITCHSCAN02	Toner sensor K	L: Light reflected H: Light shielded	Toner sensor C	L: Light reflected H: Light shielded	Toner sensor M	L: Light reflected H: Light shielded	Toner sensor Y	L: Light reflected H: Light shielded
SWITCHSCAN03	Cover open	L: Cover open H: Cover close						
SWITCHSCAN04								
SWITCHSCAN05								
SWITCHSCAN06								
SWITCHSCAN07								
SWITCHSCAN08	Color alignment sensor (L)	AD Value ***H	Color alignment sensor (R)	AD Value ***H	Density sensor	AD Value ***H		
SWITCHSCAN09	Fuser thermistor upper	AD Value ***H			Fuser thermistor upper	AD Value ***H		
SWITCHSCAN10	Humidity sensor	AD Value ***H	Temperature sensor	AD Value ***H	Belt thermistor	AD Value ***H	Heater frame thermistor	AD Value ***H
SWITCHSCAN11(Option)	Duplex-in sensor	L: Paper absent H: Paper present	Duplex rear sensor	L: Paper absent H: Paper present	Duplex cover open sensor	L: Cover open H: Cover close	Duplex front sensor	L: Paper absent H: Paper present
SWITCHSCAN12(Option)	Duplex bottom sensor	L: Paper absent H: Paper present						
SWITCHSCAN13(Option)	Tray-2 paper-end sensor	L: Paper absent H: Paper present			1st-tray sensor	L: No tray absent H: A tray present		
SWITCHSCAN14(Option)					Tray-2 entrance sensor	L: Paper absent H: Paper present		
SWITCHSCAN15(Option)								
SWITCHSCAN16(Option)								
SWITCHSCAN17(Option)								
SWITCHSCAN18(Option)								
SWITCHSCAN19(Option)								
SWITCHSCAN20(Option)								
SWITCHSCAN21(Option)								
SWITCHSCAN22(Option)								
SWITCHSCAN23(Option)								
SWITCHSCAN24								
SWITCHSCAN25	Image drum up/down sensor	L: Down H: Up						

Oki Data CONFIDENTIAL

5.4.2.4 Motor and clutch test

This self-check is used for motor and clutch testing.

1. Go into the self-diagnostic (level 1) mode, press the MENU+ or MENU- key until upper display of “MOTOR & CLUTCH TEST” is brought up, and press the ENTER key (the MENU+ key increments a test item and the MENU- key decrements a test item).
2. The names of units to be tested are listed in table 5-5. Use the MENU+ or MENU- key until the name of a unit that is to be tested appears on the lower display (the MENU+ key increments an item and the MENU- key decrements an item).

MOTOR & CLUTCH TEST
K - ID - ID MOTOR

3. Pressing the ENTER key starts the test of the unit, blinking the displayed name of the unit. The unit is driven for 10 seconds (refer to figure 5-2).

   Note! The view of step 2 is restored after the 10-second driving, and the unit is driven again with the press of the corresponding switch.
   - Clutch solenoid on-off operations are repeated in normal printing driving (solenoids whose mechanical structures do not permit their single driving operate motors concurrently with them).

4. Use the CANCEL key to stop the drive of the unit (the display for the unit remains the same).
5. Repeat the cycle of steps 2 through 4 as needed.
6. Pressing the BACK key ends the test (the display is restored to step 1).

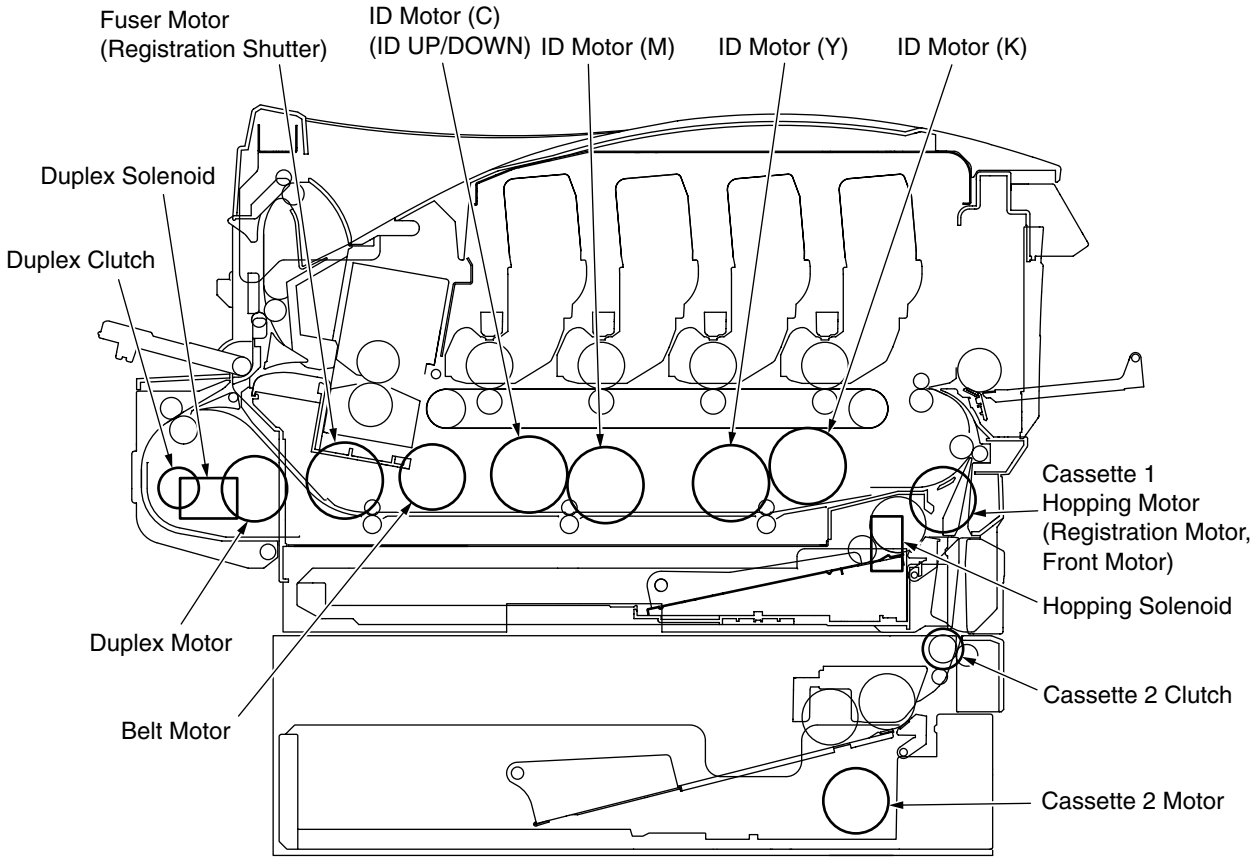


Figure 5-2

Table 5-5

Unit Name	Description of Control for Unit Driving	Control for Unit Driving
ID Motor (K)	Remove all the image drums (black, yellow, magenta and cyan) to drive.	Removal of IDs
ID Motor (Y)	Remove all the image drums (black, yellow, magenta and cyan) to drive.	Removal of IDs
ID Motor (M)	Remove all the image drums (black, yellow, magenta and cyan) to drive.	Removal of IDs
ID Motor (C)	Remove all the image drums (black, yellow, magenta and cyan) to drive.	Removal of IDs
Belt Motor	Remove all the image drums (black, yellow, magenta and cyan) to drive.	Removal of IDs
Fuser Motor	–	–
Registration Motor	(Drive only the tray 1 hopping motor.)	–
Cassette 1 Hopping Motor	Remove the cassette 1 to drive. (concurrently driving the hopping solenoid.)	Removal of Cassette 1
Front Motor	(Revolve the tray 1 hopping motor in reverse.)	–
Color (Registration) Shutter	(Revolve the fuser motor in reverse.)	–
Duplex (Exit) Solenoid	–	–
Duplex Motor	–	–
Duplex Clutch	–	–
Cassette 2 Motor	Remove the cassette 2 to drive.	Removal of Cassette 2
Cassette 2 Clutch	–	–
ID Up/Down	(Revolve the ID motor (C) in reverse.)	–
LV Fan Test	–	–
Fuser Fan Test	–	–
ID Fan Test	–	–

5.4.2.5 Test printing

This self-diagnostic is used when PU-inside test patterns are printed. The other test patterns are in controller's storage.
This printing can not be used for confirmation of print quality.
Refer to Chapter 7 for diagnosing of the trouble images.

1. Go into the self-diagnostic (level 1) mode, press the MENU+ or MENU- key until "TEST PRINT" comes into view in the upper display, and press the ENTER key (the MENU+ key is for test item increment, and the MENU- key for test item decrement).
2. Items applied only to test printing are shown on the lower display. Press the MENU+ or MENU- key until an item to be set appears, and hit the ENTER key (the MENU+ key is for item increment, and the MENU- key for item decrement) [When items need not be set (must be left at their defaults), go to step 5].
3. Press the MENU+ or MENU- key and, when the item that has been set in step 2 is reached, press the Enter key. The item and its setting are displayed on the upper and lower panel, respectively. The setting is incremented by pressing the MENU+ key, and decremented by pressing the MENU- key (the last displayed setting is applied). Pressing the BACK key determines the setting, restoring the view of step 2. Repeat step 3 as necessary.

TEST PATTERN
1

Display	Set Value	Function
PRINT EXECUTE	—	Starts printing at the press of the ENTER key, and ends the printing at the press of the CANCEL key. (Page basis)
TEST PATTERN	0	0: Prints a blank page. 1 to 7: (Print a pattern). 8 to 15: Print a blank page.
CASSET	TRAY1	Selects a unit in which paper is to be loaded.
	TRAY2	When the printer is not equipped with the tray 2, TRAY2 is not displayed.
	FF	
PAGE	0000	Sets the number of test pages printed.
COLOR	ON	Selects color or monochrome printing.
	OFF	
DUPLEX	2 PAGES STACK	Performs two-page stack duplex printing.
	OFF	Establishes duplex-off printing.
	1PAGES STACK	Performs one-page stack duplex printing.
MONO SSPEED	DEFAULT	Sets monochrome print speed.
	LOW	LOW : 20ppm
	HIGH	HIGH : 24ppm (C5450/C5400/C5250/C5200 only) DEFAULT : 20ppm
COLOR SPEED	DEFAULT	Sets color print speed.
	LOW	LOW : 12ppm
	HIGH	HIGH : 16ppm (C5450/C5400/C5250/C5200 only) DEFAULT : 12ppm (C5150/C3200n/C3200/C3100), 16ppm (C5450/C5400/C5250/C5200)

- Values in shaded areas are initial settings. Values established are applicable only to this test mode (they are not written into EEPROM).

Notes!

PAGE Setting ..... Should the ONLINE key be pressed after a digit is shifted by a touch of the MENU+ or MENU- key, the setting is incremented. In the event of the press of the CANCEL key after such a digit shift, the setting is decremented.

COLOR Setting ..... While the COLOR setting is set to ON, pressing the ENTER key displays the following on the panel.

Print Setting for Colors ... The press of the MENU+ or MENU- key shifts a value. The ONLINE or CANCEL key is used for switching between ON and OFF. The BACK key restores original display.

COLOR	→	Y:ON M:ON
ON		C:ON K:ON

4. With “PRINT EXECUTE” on the lower display after step 2, when the ENTER key is pressed, test printing is executed using the values set in steps 2 and 3. Pressing the CANCEL key stops the test printing.

   Any of the alarms shown in the table of operator panel display description (see below), which has been detected during the initiation or progression of test printing, appears on the panel display, suspending the printing (for the description of errors, see section 5.4.2.14 Operator Panel Display, which messages differ from those displayed in PU test printing).

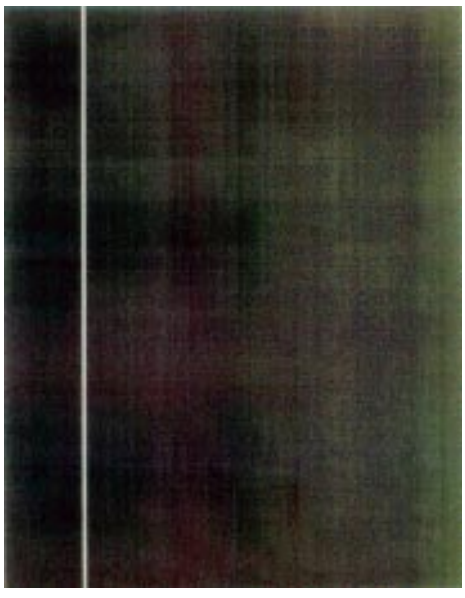
Panel Display	Detail
PAPER END SELECTED TRAY	The tray is out of paper.
DUPLEX UNIT IS NOT INSTALLED	A duplex unit is not installed.
SELECTED TRAY IS NOT INSTALLED	The selected tray is not installed.
REMOVE PAPER OUT OF DUPLEX	An internal error of the duplex unit occurred.

Print Patterns(This is not available for PQ confirmation.)

Patterns 0 and 8 to 15 ... print a blank page.



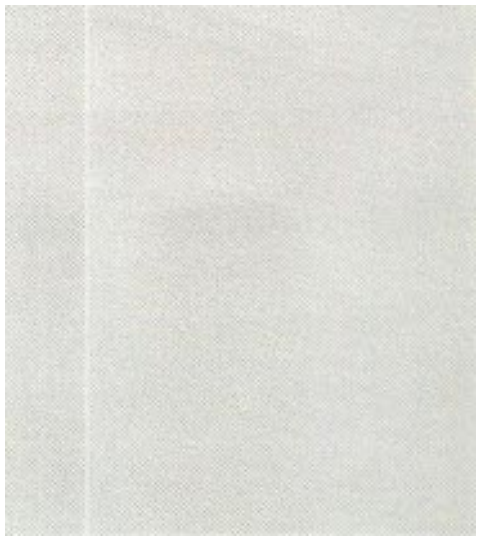
Pattern 1



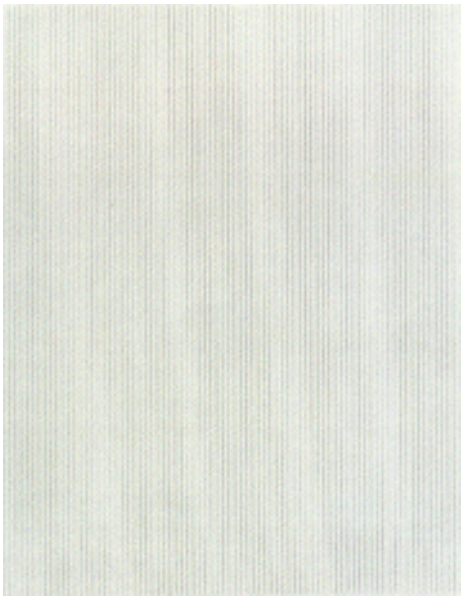
Pattern 2



Pattern 3



Pattern 4



Pattern 5



Pattern 6



Pattern 7

Note! When implementing black solid printing with each color 100% in the local print function, offset appears. To prevent this situation, when implementing black solid printing it is required to set each color for printing as shown in 5.4.2.5-3 and colors for printing should be 2 or less.

- The following messages are showing during printing.

```
P=***
W=***
```

P: Number of test pages printed (prints)
W: Wait time for printing (in seconds)

- Use the MENU+ key to change the display.

```
T=***  U=***[***]
H=***% B=***[***]
```

T: Environment temperature measurement (in Celsius)
U: Heater temperature measurement (in Celsius)
H: Environment humidity measurement (in percent)
B: Belt temperature measurement (in Celsius)

- With the press of the MENU+ key, the display is changed.

```
KTR=*.*** YTR=*.***
MTR=*.*** CTR=*.***
```

YTR, MTR, CTR and KTR are colors' respective transfer voltage settings (in KV).

- Pressing the MENU+ key changes the display.

```
KR=**** YR=****
MR=**** CR=****
```

YR, MR, CR and KR are colors' respective image drum resistance values (in megohms).

- The display is switched by pressing the MENU+ key.

```
ETMP=*** UTMP=***
REG=**** EXIT=****
```

ETMP: Environment temperature measurement (in Celsius)
UTMP: Heater temperature measurement (in Celsius)
REG: Hopping motor speed setting
EXIT: Fuser motor speed setting

- The MENU+ key switches the display.

```
KID=*** YID=***
MID=*** CID=***
```

KID, YID, MID and CID are image drum motor speed settings.

- Pressing the MENU+ key changes the display.

```
BELT=****
FRM[***](***)
```

BELT : Belt motor speed setting
FRM : A heater frame thermistor measurement

- With the press of the MENU+ key, the display is switched.

```
HT:**** CH:****
DB:****
```

HT, CH and DB are high-voltage table IDs.

- Pressing the MENU+ key changes the display.

```
TR1:**********
TR2:********
```

TR1 and TR2 are high-voltage table IDs.

- Pressing the MENU+ key changes the display.

```
TROFF=**
BELT***(***)
```

TROFF : An off voltage table ID
BELT : A belt thermistor measurement

5. Repeat steps 2 through 4 if necessary.
6. Press the CANCEL key to end the test (the display is restored to step 1).

5.4.2.6 Color registration adjustment test

This self-diagnosis (color registration adjustment test) is used to adjust and diagnose printer's color registration. Appropriate troubleshooting steps are to be used for recovery from errors occurred in the color registration adjustment test.

1. Enter the self-diagnostic mode (level 1), press the MENU+ or MENU- keys until "REG ADJUST TEST" appears on the upper display, and then press the ENTER key (the MENU+ key increments an item and the MENU- key decrements an item).
2. Press the MENU+ or MENU- keys until a color registration adjustment test item to be tested is displayed.
3. With the press of the ENTER key, the test that is showing is executed. * Pressing the CANCEL key during the test suspends the test.
4. Upon completion of the test, the result of the test (OK or a NG error name) is provided on the upper display, and "****RESULT" on the lower display.
5. Repeat the steps 2 to 4 when necessary.
6. Press the BACK key to end the test.

Color Registration Adjustment Items

Display	Function
REG ADJ EXECUTE	Performs color registration adjustment.
REG ADJ RESULT	Used to see the result of color registration adjustment.
BLT REFLECT TEST	Performs the OK or NG judgment of color registration adjustment belt reflectivity.
BLT REFLECT RSLT	Used to see the result of OK or NG judgment of color registration adjustment belt reflectivity.

5.4.2.7 Print density adjustment test

This self-diagnosis is used to perform the test with respect to printer's print density adjustment function and to see the result of the test. The test determines whether printer's print density adjustment system is proper.

1. Enter the self-diagnostic mode (level 1), press the MENU+ or MENU- keys until "DENSITY ADJUST TEST 2" appears on the upper display, and then press the ENTER key (the MENU+ key increments an item and the MENU- key decrements an item).
2. Press the MENU+ or MENU- keys until a print density adjustment test item to be tested is displayed.
3. With the press of the ENTER key, the test that is showing is executed. * Pressing the CANCEL key during the test suspends the test.
4. Upon completion of the test, the result of the test (OK or a NG error name) is provided on the upper display, and "****RESULT" on the lower display.
5. Repeat the steps 2 to 4 when necessary.
6. Press the BACK key to end the test.

Print Density Adjustment Test Items

Display	Function
DENS ADJ EXECUTE	Performs print density adjustment.
DENS ADJ RESULT	Used to see the result of print density adjustment.
DENS SENSOR TEST	Performs the OK or NG judgment of the print density adjustment sensor.

5.4.2.8 Consumable counter display

The self-diagnosis is used to indicate consumable consumption status.

1. After entering the normal self-diagnostic mode, press the MENU+ or MENU- key until “CONSUMABLE STATUS” appears on the upper display, and hit the ENTER key (the MENU+ key is for test item increment, and the MENU- key for test item decrement).
2. By pressing the MENU+ or MENU- key, the consumption status of consumables comes into view item by item (the ONLINE and CANCEL keys are invalid).
3. Pressing the BACK key ends the test (the display of step 1 is restored).

Item	Top Display	Bottom Display	Format	Unit	Details
Fuser unit	FUSER UNIT	******** PRINTS	Decimal	Print	Shows the number of pages printed (prints) after installation of a new fuser unit to date.
Belt unit	TR BELT UNIT	******** IMAGES	Decimal	Image	Converts into a count on an A4-size-page basis at 3 pages per job, and shows, the number of pages impressed (images) after installation of a new belt unit to date.
ID unit-black	BLACK ID UNIT	******** IMAGES	Decimal	Print	Convert the numbers of revolutions of image drum units after the installation of those units to date into counts on a letter-(A4-) size-page basis at 3 pages per job and show it.
ID unit-yellow	YELLOW ID UNIT	******** IMAGES	Decimal	Print	
ID unit-magenta	MAGENTA ID UNIT	******** IMAGES	Decimal	Print	
ID unit-cyan	CYAN ID UNIT	******** IMAGES	Decimal	Print	
Toner-black	BLACK TONER	***%	Decimal	%	Show the amounts of toner used. F : A 5K toner bottle. H : A 3K toner bottle. * C3200n/C3200 (OEL/AOS) F : A 3K toner bottle. H : A 1.5K toner bottle. * C3200n (ODA) F : A 1.5K toner bottle.
Toner-yellow	YELLOW TONER	***%	Decimal	%	
Toner-magenta	MAGENTA TONER	***%	Decimal	%	
Toner-cyan	CYAN TONER	***%	Decimal	%	
Waste toner-magenta	M-WASTE TNR CNT	***TIMES	Decimal	Times	Displays the amount of each color s waste toner. * A printer becomes full of waste toner with the value 32 TIMES or more on its status display about waste toner.
Waste toner-cyan	C-WASTE TNR CNT	***TIMES	Decimal	Times	

5.4.2.9 Counter display of numbers of prints and images

This self-diagnosis function is used to show printer status about the number of sheets fed (prints) from and the numbers of images impressed from a printer.

1. Enter the normal self-diagnostic mode, press MENU+ or MENU- key until the upper display “PRINTER STATUS” appears, and press the Enter key (the MENU+ key is for item increment, and the MENU- key for item decrement).
2. When the MENU+ or MENU- key is pressed, the status about the number of prints or images (the ONLINE and CANCEL keys are invalid).
3. Pressing the BACK key ends the test (flips the display back to step 1).

Item	Top Display	Bottom Display	Format	Unit	Details
Total sheets fed	TOTAL SHEETS FEED	******** PRINTS	Decimal	Print	Shows the total number of sheets fed, including blank pages.
Print - black	BLACK IMPRESSIONS	******** IMAGES	Decimal	Print	Show the numbers of pages (images) impressed using image drums.
Print - yellow	YELLOW IMPRESSIONS	******** IMAGES	Decimal	Print	
Print - magenta	MAGENTA IMPRESSIONS	******** IMAGES	Decimal	Print	
Print - cyan	CYAN IMPRESSIONS	******** IMAGES	Decimal	Print	

5.4.2.10 Switching between Factory and Shipping modes

This self-diagnosis function is used to switch the PU (PRN) board mode from Factory to Shipping.

1. Enter the self-diagnostic mode (level 1), press the MENU+ or MENU- key until LOCAL PARAMETER SET appears on the upper display, and press the Enter key (the MENU+ key increments an item, and the MENU- key decrements an item).
2. Press the MENU+ or Menu- key until FACTORY MODE is shown on the upper display.
3. Pressing the ENTER key makes a setting selectable on the lower display. Press the MENU+ or MENU- key to display the setting FACTORY MODE or SHIPPING MODE desired to be set.
4. With the desired setting on the display, concurrently pressing the CANCEL and ONLINE keys blink all the displayed settings and then holding those keys for three seconds or more accepts the desired setting. Press the BACK key to return to step 2.
5. Press the BACK key to end the testing (the display of step 1 is restored).

Local Parameter Setting Items

Display	Setting	Function
FACTORY MODE	FACTORY MODE	Establishes factory operation mode (a mode for disabling fuse-cut).
	SHIPPING MODE	Deselects factory operation mode to enable fuse-cut function.
FUSE INTACT Notes) ****** is INTACT or BLOWN.	FUSE UNIT ******	Checks the fuse of the fuser.
	BELT UNIT ******	Checks the fuse of the transfer belt unit.
	K-ID UNIT ******	Checks the fuse of the K-image drum unit.
	Y-ID UNIT ******	Checks the fuse of the Y-image drum unit.
	M-ID UNIT ******	Checks the fuse of the M-image drum unit.
	C-ID UNIT ******	Checks the fuse of the C-image drum unit.

5.4.2.11 Self-diagnosis function setting

This self-diagnosis function setting function is used to enable or disable error detection by each sensor. When using this, note that error detection can temporarily be disabled or enabled for troubleshooting and enabled error detection can make settings for, among printer engine operation items, items that require expert knowledge for the items to be handled. After error detection is used, be sure to change the setting for the error detection back to its default.

1. Enter the self-diagnostic mode (level 1), press the MENU+ or MENU- key until ENGINE PARAMETER SET2 appears on the upper display, and press the Enter key (the MENU+ key increments an item, and the MENU- key decrements an item).
2. Press the MENU+ or Menu- key until an item for which a setting will be made is shown on the upper display.
3. Pressing the ENTER key enables the selection of a setting on the lower display, blinking the item on the upper display and, on the lower display, a setting currently set for the item (the blinking mean that they can be set by pressing MENU+ or MENU- key).
4. Press the MENU+ or MENU- key to display the setting that will be set for the item.
5. While that setting is blinking, concurrent use of the CANCEL and ONLINE keys accepts the setting, restoring the display of step 2.
6. Repeat steps 2 to 5 if necessary.
7. Press the BACK key to end the setting (the display of step 1 is restored).

Print Density Adjustment Test Items

is default

Display	Setting	Description of Setting	Function
TONER SENSOR	ENABLE	Performs detection	Enables or disables toner sensor operations.
	DISABLE	Does not perform detection	
BELT UNIT CHECK	ENABLE	Performs checking	Enables or disables the checking of belt installation.
	DISABLE	Does not perform checking	
ID UNIT CHECK	ENABLE	Performs checking	Enables or disables the checking of image drum installation.
	DISABLE	Does not perform checking	
UP/DOWN SENSOR	ENABLE	Performs detection	Enables or disables image drum up/down sensor operations.
	DISABLE	Does not perform detection	
REG ADJUST ERROR	ENABLE	Makes operation a pause	Enables or disables the function of an error pause controlled based on each color registration value detected.
	DISABLE	Does not make operation a pause.	

5.4.2.12 Waste toner counter display

This self-diagnosis function is used to display printer status about waste toner.

1. Enter the self-diagnostic mode (level 1), press the MENU+ or MENU- key until WASTE TONER CNT appears on the upper display, and press the ENTER key (the MENU+ key increments an item, and the MENU- key decrements an item).
2. Pressing the MENU+ or MENU- key displays waste toner counter values one by one.
3. Press the BACK key to end the testing (the display of step 1 is restored).

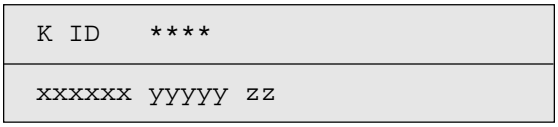
WASTE TONER CNT display

Upper Display	Lower Display	Format	Unit	Detail
M-WASTE TNR CNT	********* TIMES	DEC	Times	The amount of magenta waste toner.
C-WASTE TNR CNT	********* TIMES	DEC	Times	The amount of cyan waste toner.

5.4.2.13 LED head serial number display

This self-diagnosis function is used to check whether downloaded LED head data agree with the serial numbers appearing on LED heads, respectively.

1. Enter the self-diagnostic mode (level 1), press the MENU+ or MENU- key until LED HEAD DATA is shown on the upper display, and press the Enter key (the MENU+ key increments an item, and the MENU- key decrements an item).
2. Pressing the MENU+ or MENU- key displays the K, Y, M and C LED head data serial numbers one by one.
3. Press the BACK key to end the testing (the display of step 1 is restored).



xxxxxx: A serial number (six characters) by model series.
yyyyy: Date, month and year (five characters).
zz: A revision number.

5.4.2.14 Operator panel display

Display

LCD (English) (□ means no display in upper line)	Ready LED	Attention LED	Description	Level
ONLINE .xxxx tttttt	ON	Varies	Shows on-line status.	Normal
OFFLINE .xxxx tttttt	OFF	Varies	Shows off-line status.	Normal
FILE ACCESSING	Varies	Varies	Device accessing during the operation of accounting system operating.	Normal
DATA ARRIVE .xxxx tttttt	Varies	Varies	Data receiving, process not started yet. Displayed mainly during PJL process without text print data or during job spooling.	Normal
PROCESSING .xxxx	Blink	Varies	Data receiving or output processing.	Normal
DATA .xxxx	Varies	Varies	Un-printed data remains in Buffer. Waiting for data to follow.	Normal
PRINTING tttttt	Varies	Varies	A printer is printing.	Normal
PRINT DEMO PAGE	Varies	Varies	Performing Demo Print. Not displayed when printing user defined demo-pages (Shows “PRINTING” in this case)	Normal
PRINT FONT	Varies	Varies	Printing Fonts. Same as in all fonts. (PCL,PSE,IBMPPR,EPSON FX) (PX725)	Normal
PRINT MENU MAP	Varies	Varies	Printing Menu Map.	Normal
PRINT FILE LIST	Varies	Varies	Printing File List. (PX725)	Normal
PRINT ERROR LOG	Varies	Varies	Printing Error Logs. (PX725)	Normal
□ COLLATE COPY iii/jjj	Varies	Varies	Collate printing. iii: The number of copy in printing. jjj: The total number of printing. When the total number of printing is 1, it is a normal printing display.	Normal
□ COPY kkkk/llll	Varies	Varies	Copy printing. kkk: The number of pages in printing. lll: The total number of printing. When the total number of copy is 1, it is a normal printing display.	Normal
CANCELING JOB	Blink	Varies	Indicates that job cancellation has been instructed and data is being ignored until the job completion. (Display for a certain period (seconds) is requested. If it immediately disappears, cannot tell whether or not it was cancelled.)	Normal
CANCELING JOB (USER DENIED)			Job cancelled because of no permission for printing (Related to JobAccount) 1. Job received from a user not permitted to print. 2. Color Job received from a user not permitted to print in color.	

LCD (English) (□ means no display in upper line)	Ready LED	Attention LED	Description	Level
CANCELING JOB (BUFFER FULL)	Blink	Varies	Job cancelled because the log saving area in printer is running out and “Job cancelled when log full occurs” is set. (Related to JobAccount)	Normal
CANCELING JOB (JAM)			Job cancelled and the data is being discarded till the end of the Job because JAM occurs when “JAM RECOVERY ” is set to OFF.	
□ WARMING UP	Varies	Varies	Warming up.	Normal
□ OPTIMIZING TEMP	Varies	Varies	Because the drum temperature is high, printing is temporarily suspended. Or, the printer is waiting for implementation of heat measure for media switch from narrow paper to wide paper.	Normal
□ POWER SAVE	Varies	Varies	A printer is in power save mode. Displayed in a combination of other message in the first line.	Normal
□ ADJUSTING COLOR	Varies	Varies	Auto registration adjusting in progress	Normal
□ ADJUSTING DENSITY	Varies	Varies	Auto tone adjusting in progress	Normal
□ ADJUSTING DENSITY	Varies	Varies	Auto density adjusting in progress	Normal
			Downloading PU firmware (Displayed messages are output by the PU firmware.)	Normal
□ ORDER * TONER	Varies	ON	Toner low. Displayed in a combination of other message in the first line. If ”LOW TONER=STOP” is set in menu, ATTENTION LED blinks and the printer shifts to Off-line. When a user presses On-line switch, ATTENTION LED (stops blinking and) lights on and printing can continue until TONER EMPTY. Y M C K This message is also displayed when * waste toner box is near full.	Warning
□ * WASTE TONER FULL.REPLACE TONER	Varies	ON	The printer can still print. Allows printing about 50 pages of A4 size at 5% density, then stops with Waste Toner Full Error(414,415,416) again. The LCD message indicates that the Waste Toner box is full. Y M C	Warning
PRESS ONLINE SW INVALID DATA or TIMEOUT	Varies	Varies	Invalid data was received. Press the On-line switch and eliminate the warning. Displayed when unsupported PDL command is received or a spool command is received without HDD. Also displayed when data reception has been suspended for more than the period specified by WAIT TIMEOUT in SYS CONFIG MENU. (PX724)	Warning

LCD (English) (□ means no display in upper line)	Ready LED	Attention LED	Description	Level
PRESS ONLINE SW INVALID DATA	Varies	Varies	Invalid data was received. Press the On-line switch and eliminate the warning. Displayed when unsupported PDL command is received or a spool command is received without HDD. (PX725)	Warning
□ PS3 EMUL ERROR	Blink	Varies	Interpreter has detected an error due to the following reason. Receive data after this is ignored until the job completion. When the job is completely received, this is automatically cleared. - The job has a grammatical error. - The page is complicated, and VM was used up.	Warning
□ ORDER * IMAGE DRUM	Varies	ON	Drum near life. (warning) Displayed in a combination of other message in the first line. Y M C K	Warning
□ ORDER FUSER	Varies	ON	Fuser unit near life. (Warning)	Warning
□ ORDER BELT	Varies	ON	Belt unit near life. (warning)	Warning
□ FUSER LIFE	Varies	ON	If a fuser life error occurs and a user opens/closes the cover or reboots the printer, this phenomenon happens. When the printer printed 500 pages, the error occurs again.	Warning
□ BELT LIFE	Varies	ON	If a belt life error occurs and a user opens/closes the cover or reboots the printer, this phenomenon happens. When the printer printed 500 pages, the error occurs again.	Warning
□ * TONER EMPTY	Varies	ON	If a toner empty occurs and a user opens/closes the cover or reboots the printer, this phenomenon happens. When the printer printed approx. 50 pages (A4, density 5%), the error occurs again. Y M C K	Warning
□ * DRUM LIFE	Varies	ON	If a drum life error occurs and a user opens/closes the cover or reboots the printer, this phenomenon happens. When the printer printed 500 pages, the error occurs again. Y M C K	Warning
□ BELT REFLEX ERROR	Varies	ON	Belt Reflex Check error. This is not a user-level error. (If it happens, change the mode to Shipping mode. See the section 5.4.2.10.)	Warning
□ DENSITY SHUTTER ERROR2			This is not a user-level error. (If it happens, change the mode to Shipping mode. See the section 5.4.2.10.)	Warning

LCD (English) (□ means no display in upper line)	Ready LED	Attention LED	Description	Level
□ DENSITY SHUTTER ERROR1			This is not a user-level error. (If it happens, change the mode to Shipping mode. See the section 5.4.2.10.)	Warning
□ DENSITY COLOR CALIBRATION ERROR			This is not a user-level error. (If it happens, change the mode to Shipping mode. See the section 5.4.2.10.)	Warning
□ DENSITY COLOR SENSOR ERROR			This is not a user-level error. (If it happens, change the mode to Shipping mode. See the section 5.4.2.10.)	Warning
□ DENSITY BLACK CALIBRATION ERROR			This is not a user-level error. (If it happens, change the mode to Shipping mode. See the section 5.4.2.10.)	Warning
□ DENSITY BLACK SENSOR ERROR			This is not a user-level error. (If it happens, change the mode to Shipping mode. See the section 5.4.2.10.)	Warning
□ * IMAGE DRUM SMEAR ERROR			This is not a user-level error. (If it happens, change the mode to Shipping mode. See the section 5.4.2.10.) Y,M,C,K	Warning
□ * LOW DENSITY ERROR			This is not a user-level error. (If it happens, change the mode to Shipping mode. See the section 5.4.2.10.) Y,M,C,K	Warning
□ REGISTRATION ERROR 1	Varies	ON	Registration error This is not a user-level error. (If it happens, change the mode to Shipping mode. See the section 5.4.2.10.)	Warning
□ SENSOR CALIBRATION ERROR	Varies	ON	Sensor calibration error This is not a user-level error. (If it happens, change the mode to Shipping mode. See the section 5.4.2.10.)	Warning
□ REGISTRATION ERROR 2	Varies	ON	Gamma error This is not a user-level error. (If it happens, change the mode to Shipping mode. See the section 5.4.2.10.)	Warning
□ REGISTRATION ERROR 3	Varies	ON	Gamma error This is not a user-level error. (If it happens, change the mode to Shipping mode. See the section 5.4.2.10.)	Warning
□ REGISTRATION ERROR 4	Varies	ON	Gamma error This is not a user-level error. (If it happens, change the mode to Shipping mode. See the section 5.4.2.10.)	Warning
□ REGISTRATION ERROR 5	Varies	ON	Gamma error This is not a user-level error. (If it happens, change the mode to Shipping mode. See the section 5.4.2.10.)	Warning
□ REGISTRATION SENSOR ERROR 2	Varies	ON	Registration sensor error This is not a user-level error. (If it happens, change the mode to Shipping mode. See the section 5.4.2.10.)	Warning
□ REGISTRATION SENSOR ERROR 3	Varies	ON	Registration sensor error This is not a user-level error. (If it happens, change the mode to Shipping mode. See the section 5.4.2.10.)	Warning
□ REGISTRATION SENSOR ERROR 4	Varies	ON	Registration sensor error This is not a user-level error. (If it happens, change the mode to Shipping mode. See the Msection 5.4.2.10.)	Warning

LCD (English) (□ means no display in upper line)	Ready LED	Attention LED	Description	Level
□ REGISTRATION SENSOR ERROR 5	Varies	ON	Registration sensor error This is not a user-level error. (If it happens, change the mode to Shipping mode. See the section 5.4.2.10.)	Warn-ing
□ * HEAD DATA ERROR	Varies	ON	Correction Data of LED HEAD has not been written in PU FLASH. Displayed only when VE version LED HEAD (no EEPROM) is in use. Y M C K	Warn-ing
□ ttttt EMPTY	Varies	Varies	"ttttt" tray is empty. Treated as Warning until printing to the empty tray is designated. MPTRAY EMPTY is displayed when paper feed from MPTRAY is attempted, but the tray is empty. When printing of the job is completed, this warning disappears if a user opens/closes the cover or reboots the printer.	Warn-ing
□ HARD DISK FULL	Varies	ON	Disk-full has occurred. Because this is a temporary warning, it remains until the end of the job and disappears. (PX725)	Warn-ing
□ DISK WRITE DISABLED	Varies	ON	An attempt to write in a read-only file was done. Because this is a temporary warning, it remains until the end of the job and disappears. (PX725)	Warn-ing
□ COLLATE FAIL	Varies	OFF	The data of MOPY is memory-full.	Warn-ing
□ INVALID ID. JOB REJECTED	Varies	ON	Job cancelled because of no permission for printing (Related to JobAccount) Cleared by pressing ON-LINE switch. 1. Job received form a user not permitted to print 2. Color Job received form a user not permitted to print in color.	Warn-ing
□ LOG BUFFER FULL. JOB REJECTED			Job cancelled because the log saving area in printer is running out and "Job cancelled when log full occurs" is set. (Related to JobAccount)Cleared by pressing ON-LINE switch.	
□ DISK USE FAILED	Varies	ON	A disk error has occurred. Operation that does not involve a disk is available. (PX725)	Warn-ing
LOAD mmm IN MP TRAY AND PRESS ONLINE SWITCH	ON	OFF	Manual paper feed is required. Manually insert the paper shown by mmm.	Warn-ing

5.4.3 Printing on Controller-Equipped Printer on a Standalone Basis

Menu Map Printing

Information, including program versions, controller block configuration and network configuration, is printed.

Operation:

1. Press the MENU+ key several times to display “INFORMATION MENU”.
2. Press the ENTER key to display “PRINT MENUMAP/EXECUTE”.
3. Press the ENTER key.

Alternatively press the push switch located above the network connector on the back of the printer main body for two seconds or more.

Demo Printing

Demonstration patterns for destinations stored in ROM are printed.

Operation:

1. Press the MENU+ key several times to display “INFORMATION MENU”.
2. Press the ENTER key.
3. Press the MENU+ key several times to display “DEMO1/EXECUTE”.
4. Press the ENTER key.

5.4.4 Switch Press Functions at Printer Power-On

Switch functions at printer power-on are as follows. The following switches are enabled, when pressed and held until “RAM CHECK” appears on the upper LCD display and, on the lower LCD display, three or four asterisks (*) appear.

1. MENU+ key, MENU- key and ENTER key

   Performs printer activation in CU program update mode. Printer activation in that mode causes network inoperability because the activation disables DLM function.

2. BACK key, ONLINE key and CANCEL key

   Performs CU program activation without activating object(s) which have been added in download mode etc.

3. MENU+ key and MENU- key

   Performs system maintenance menu activation.

4. BACK key, MENU- key and ENTER key

   Performs printer activation in a mode which ignores warnings/errors and which at all times keeps printer on-line state (a factory support function).

5. ONLINE key

   Performs printer activation in an exclusive mode which downloads objects, such as networks and USBs.

6. ENTER key

   Performs Admin menu activation.

5.5 Settings after Parts Replacement

Adjustments required after parts replacement are described below.

Replaced Part	Adjustment
LED Head	Not required.
Image Drum Cartridge (Any of Y, M, C and K)	Not required.
Fuser Unit	Not required.
Belt Unit	Not required.
PU (PRN Board)	Copying of EEPROM data and Utility
CU (ARC Board / SPY Board / SPA Board)	Copying of EEPROM data and Utility

5.5.1 Instructions to exchange the engine control board

1. EEPROM of the board to be removed is accessible [SERVICE CALL 105 (ENGINE EEPROM Error) is not shown]

   (1) Take EEPROM information from a board to be removed by PU board exchange function of the maintenance utility (Operation manual of the maintenance utility 2.4.1.1, and 2.4.1.2 PU board exchange function) to store in HDD of the computer temporarily.

   (2) Copy EEPROM information stored in HDD of the computer as shown in (1) with PU board exchange of the maintenance utility (Operation manual of the maintenance utility 2.4.1.1, and 2.4.1.2 PU board exchange function) to a EEPROM of the board to be installed newly.

Note! When taking or writing EEPROM information in the maintenance utility, set a printer to “Forced ONLINE Mode” in the following order before accessing to EEPROM. In addition, an error message is shown in Forced ONLINE Mode when the printer is in an error.

- For C5450/C5400/C5540/C5250/C5200/C5150/C3200n
  1) Press [BACK]+[MENU-]+[ENTER] until “STATUS MODE” is displayed in the operator panel when turning on the printer.
  2) After that, “ONLINE” is displayed when the device status is normal, but an error message is displayed when the device has an error. Meantime, inside of the device is an ONLINE state and it is communicable.
- For C3200/C3100/C5510
  1)Select "Factory Mode" using the maintenance utility. For details of the operation, refer to the maintenance utility operation manual.
  (No setup is required because the maintenance board is already set in the "Factory Mode".)
  2)Turn off the power and then turn it on again with the top cover open.This will place the printer into the Forced ONLINE Mode.

2. EEPROM of the board to be removed is not accessible

Operate with the maintenance utility in the following order after exchanging to a new board if SERVICE CALL 105 (Engine EEPROM Error) is displayed in the operator panel for the board to be removed or EEPROM data cannot be read.

(1) The setting of the PU serial number
(Operation manual of the maintenance utility 2.4.1.2 PU board Setting)

The SAP serial number is applied to the device. The SAP serial number, which is the total 12 digits consisted of two digits for a manufacturing base, two digits for a date of manufacture, six digits for a manufacture number (Sequence No.) and two digits for a revision number, is shown in the top of the serial number label.

- The PU serial number is 10- digit number without 2 digits for a revision number of SAP serial number 12 digits.
- Set in the “2.4.1.1.2 PU serial number setting” screen of “2.4.1.1.2.1 PU board setting” of the maintenance utility.
- When a PU serial number is specified, input 11- digit number with “0” at the top (it is 10 digits when it is read out.)
  Enter an 11 digit number added with a half-width zero before the 10 digit number excluding the 2 digits standing for the revision, indicated for the conceptual diagram below the “PU Serial Number Setting” screen.

[Other than for OEL]

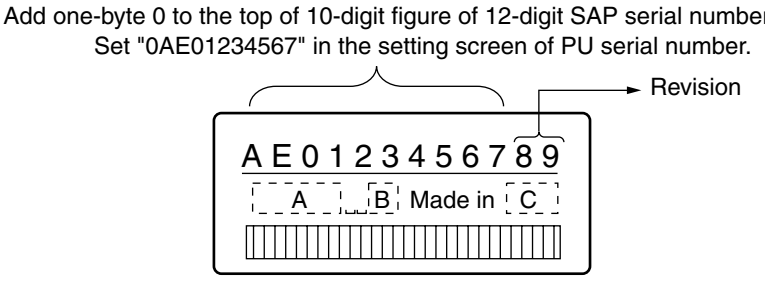


Figure of Serial No. label image

[For OEL]

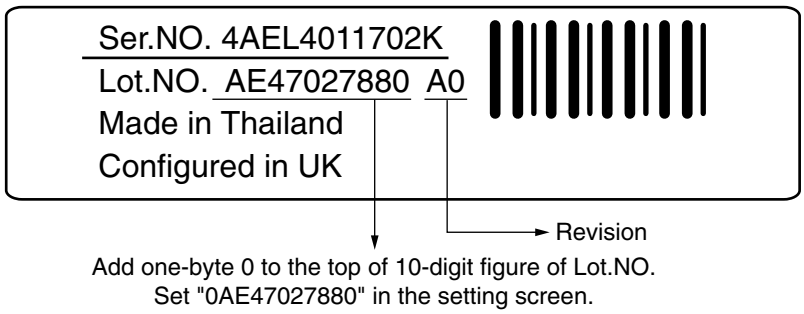


Figure of Serial No. label image (labeled in UK Factory)

- The PU serial number is not outputted in the Printer Serial Number field of the header in MenuMap. The CU serial number is outputted in this field. Therefore, confirmation after rewriting the PU serial number is implemented by reading out the PU serial number from the maintenance utility again.
- In addition, as for OEL, PU serial number is outputted in “Lot Number:” of the last line in the header of Menu Map after a configuration in UK factory. [Refer to 5.5.2-1.(2)]
- When the PU serial number is read out, 10- digit number is read out and displayed.

(2) Switching to the Shipping Mode

When replacing an engine control board with a new one, it is the Factory Mode. Therefore, it is necessary to Switch to the Shipping Mode.

- Switch in the “Section 2.4.1.1.2.2 Factory/Shipping Mode” screen of “Section 2.4.1.1.2 PU board setting function” in Maintenance Utility of PU board setting function.

(3) Change to STC (Starter toner cartridge)

Make sure to be the Shipping mode when changing a mode by a change file.

Change to STC Mode by the following PJL file with the File sending function of the maintenance utility (Operation manual of the maintenance utility 2.4.4.1.12 Sending function of the file specification) when exchanging an engine control board in STC.

When changing to the STC mode, a toner cartridge should not be installed, or STC has to be installed. It may not change to the STC mode successfully depending on a PU version. (01.00.**)

STC Mode Change File: 42678801FX01.PJL

Note! It is possible to download PJL file from FTP server for the manual.)

Notes: 1. When writing EEPROM information in the maintenance utility, set the printer to “Forced ONLINE Mode” in the following order before accessing to EEPROM. In addition, when the printer is in the error status, and error message is shown in “Forced ONLINE Mode”.

- For C5450/C5400/C5540/C5250/C5200/C5150/C3200n
  1) Press [BACK]+[MENU-]+[ENTER] until “STATUS MODE” is displayed in the operator panel when turning on the printer.
  2) After that, “ONLINE” is displayed when the device status is normal, but an error message is displayed when the device has an error. Meantime, inside of the device is an ONLINE state and it is communicable.
- For C3200/C3100/C5510
  1)Select "Factory Mode" using the maintenance utility. For details of the operation, refer to the maintenance utility operation manual.
  (No setup is required because the maintenance board is already set in the "Factory Mode".)
  2)Turn off the power and then turn it on again with the top cover open.This will place the printer into the Forced ONLINE Mode.

2. Refer to 5.2 for the maintenance utility.
3. Change to the Shipping mode is available in the operation panel. Refer to 5.4.2.10.
4. Power has to be restored after exchanging a PU board.

Note! Note that, because EEPROM (engine controller board) replacement clears information on the life of a belt unit, toner, image drum units, etc., errors are introduced in the control of the life until they are replaced after the EEPROM replacement. Counts cleared upon EEPROM replacement are as follows. The counts except Total Sheets Fed are cleared, the errors being eliminated, at the point where the units for which the counts are provided have been replaced with new ones.

Item	Description	Count Description
Fuser unit	Fuser unit life count	A value converted on a A4-size-paper basis from number of pages printed (prints) after installation of a new fuser unit
Belt unit	Belt unit life count	A value converted on a A4-size-paper basis from number of pages impressed (images) after installation of a new belt unit
Image drum unit - Black Image drum unit - Yellow Image drum unit - Magenta Image drum unit - Cyan	Respective life counts of image drum units	Values converted on a A4-size-paper basis from numbers of revolutions after installation of new image drum units
Toner - Black Toner - Yellow Toner - Magenta Toner - Cyan	Respective counts of toner amounts used	Numbers of dots printed
Total number of sheets fed	Printer life count	Total number of sheets fed
Pages - Black Pages - Yellow Pages - Magenta Pages - Cyan	Respective numbers of pages impressed (images) with image drums	Numbers of pages impressed (images) from installation of new image drum units.

5.5.2 EEPROM Setting after ARC Board/SPY Board/SPA Board Replacement

When ARC/SPY/SPA board replacement, data in user-used board EEPROM is to be copied onto new boards using maintenance utility software (to allow new boards to inherit user-defined information and font installation information). However, contents of the network menu can not be copied even if this method is applied. When user-used EEPROMs are unusable due to its problem, new boards, whose destinations and must have been set, are to be used. Also new-EEPROM destinations must have been set. (Refer to Section 5.5.3)
It is required to set a CU serial number for the both above situations.

1. CU Serial Number Setting
   The SAP serial number is applied to the device. The SAP serial number, which is the total 12 digits consisted of two digits for a manufacturing base, two digits for a date of manufacture, six digits for a manufacture number (Sequence No.) and two digits for a revision number, is shown in the top of the serial number label.

   (1) Other than for OEL
   - The CU serial number is 10-digit number without 2 digits for a revision number of SAP serial number 12 digits.
   - Caution is required since the menu setting in CU is reset when setting a CU serial number (it is returned to the default.)(Refer to the maintenance utility operation manual.)
   - In “Serial Number Information Setting” of “CU board setting” of the maintenance utility, select “CU Serial Number” in “Select Printer Serial Number” and “Display a serial number only” for [Display Mode] (the default.)
   - Input a 10-digit number when specifying a CU serial number. (it is also 10 digits when it is read out.)
   - CU serial number is outputted in the Printer Serial Number: field of the header in MenuMap. Therefore, confirmation after rewriting a CU serial number is implemented by MenuMap print.

   (2) For OEL
   - As for CU serial number, an original serial number within 12 digits is given in UK factory.
   - If CU serial number is set, caution is required because a menu setting in CU is reset (returned to the default setting.)(Refer to Operation manual of the maintenance utility.)

- Set “Select Printer Serial” to “CU Serial Number” and “Display both” to “Display Mode” in “Section 2.4.1.4.3 Setting of Serial Number Information” of “Section 2.4.1.1.2 CU Board Replacement” in the maintenance utility.
- Input a number within 12 digits when specifying a CU serial number. (It is within 12 digits when the number is read as well.)
- CU serial number is outputted in “Printer Serial Number:” of the header in Menu Map. Therefore, check after rewriting a CU serial number can be done by Menu Map printing.
- In addition, PU serial number is outputted in “Lot Number:” of the last line in the header.

5.5.3 Destination Setting [Check Method: Printing demo page (C5450, C5400, C5540), Printing Menu Map (C5250, C5200, C5150, C3200n, C3200, C3100, C5510)]

The destination setting for each printer, which defaults to OEL, is to be set to the destination of the printer without exception at the time it is shipped.

Note! Destination settings are stored in ARC board/SPY board/SPA board EEPROM.

1. Maintenance-use boards: Destination setting for maintenance-use boards to Japan indirect sales, ODA, OEL and APS is not performed. They are shipped with the destination settings set to their default.
2. Setting from operator panel: Each printer is booted in Maintenance mode and its destination is set.
   - While holding the MENU+ and MENU- keys down, turn on the printer.

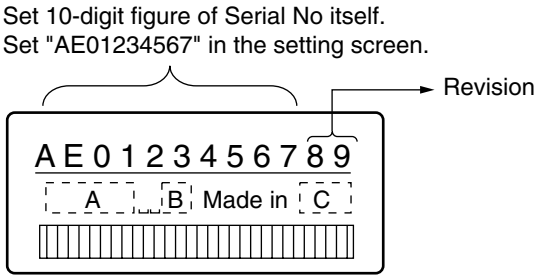


Figure of Serial No. label image

   - After “MAINTENANCE MENU” appears, the display changes to “OKIUSER.”
   - Press the MENU+ key, select destination-setting “OKIUSER” and press the ENTER key.
   - “Present Destination” is shown on the lower display.

- Press the ENTER key, select a destination using the MENU+ or MENU- key, and hit the ENTER key.
- Press the BACK key to confirm the selection.
- With the two presses of BACK key or the one press of ONLINE key, the printer is restarted with the destination changed.

3. Model C5200ne (ODA) only:
C5200n and C5200ne share a same CU-Board. (Default C5200n)



Figure of Serial No. label image (labeled in UK Factory)

Then, C5200n to C5200ne setting must be performed.

(1) Set Destination as ODA by above method.

(2) Connect printer to PC by USB-cable.

(3) Send below command-file by Maintenance utility software.

Command-file name: set_c5200ne.pjl

(This file is offered by ftp://)

(4) Power off and power on the printer.

(5) Print demo page and check model name as C5200ne.

Note1 In case of setting change C5200ne to C5200n:

(1) Send below command-file by Maintenance utility software.
Command-file name: set_c5200n.pjl
(This file is offered by ftp://)

(2) Power off and power on the printer.

(3) Print demo page and check model name as C5200n.

Note2 C5200ne setting is not changed by MENU RESET (USER MAINTENANCE MENU or SYSTEM MAINTENANCE MENU).

4. Description
C5450/C5400/C5540/C5250/C5200/C5150/C3200n/C3200/C3100/C5510 printers to Japan domestic and overseas destinations share a ROM. Destination setting must be performed where the ROM is used in printers to other-than-OEL destinations (destination settings default to OEL). Destination settings are stored in ARC board/SPY board/SPA board EEPROM. Program ROM version changes return destination settings to their initial values. Destination setting for maintenance-use boards, which destinations are not set at the time of shipment, is to be carried out when they are used.

If destination is OEL and Russian compatible panel is installed, you need to change CODESET in CONFIG MENU in SYSTEM MAINTENANCE MENU to TYPE2 and reboot. [Refer to Section 5.1 System Maintenance Menu(For Maintenance Staff.]

5.6 Settings by Hand for Print Density Adjustment

Auto Density Adjustment mode is set to [AUTO] at printer shipment, however, if it is set to [Manual], misalignment of printing may occur during printer operation. In such cases, the density is to be adjusted.

Notes! Print density adjustment is to be performed with printers at rest. Do not adjust print density during printer warming-up.

1. Press the MENU+ or MENU- key several times to show [COLOR MENU], and press the ENTER key.
2. Press the MENU+ or MENU- key to display [DENSITY ADJUSTMENT/ RESET].
3. Press the ENTER key.

Auto print density adjustment starts.

6. REGULAR MAINTENANCE

6.1 Parts Replaced Regularly

We recommend that the following parts be replaced only in the case of heavy use of this unit (only for heavy users).
(Print quality cannot be assured and damages may occur, when the parts are not replaced.)

Part Name	C3200/C3100/C5510	C5250/C5200/C5150/C3200n	C5400/C5540
Friction Pad Assy	42088801	<--	<--
Roller Assy. Hopping	42052601	<--	<--

Note! 1.Consumable parts (EPCs, toner cartriges, fuser unit and transfer belt unit) not included.
2.PSU, PU board, CU board and relay PCB not included.

Parts are replaced periodically by users.

6.2 Cleaning

Clean the internal and external sections of the printer with waste and a small vacuum cleaner as required.

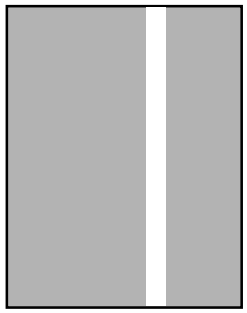
Note! Do not touch the image drum terminals, the LED lens array, and the LED head connecter.

6.3 Cleaning the LED Lens Array

Clean the LED head array while white bands or lines (white-out, faint print) appear in the vertical direction on a printed page.

Note! Be sure to clean the LED lens array with the LED lens array cleaner. (the LED head cleaner is packed together with the toner cartridge.)

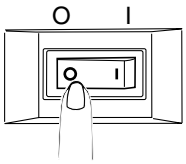
White band, white stripe
(Void or light printing)



CLEANING THE LED HEAD

Clean the LED head when you find a printed page with a blurred image, vertical white bands, or unclear characters.

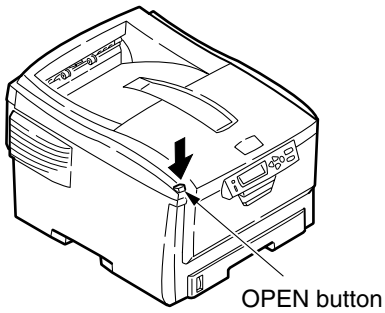
(1) Turn off the printer.



(2) Press down the OPEN button to open the top cover.

⚠Caution	Personal injuries may occur.	

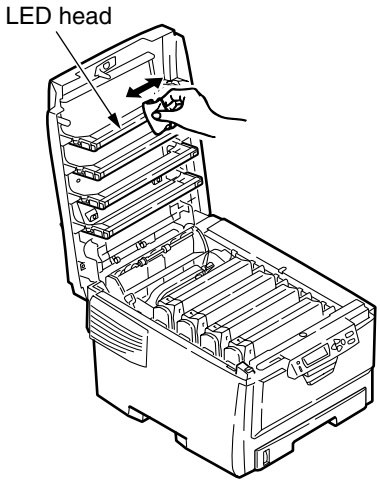
The fuser unit is extremely hot. Do not touch it.



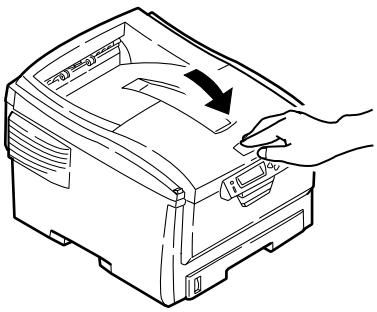
(3) Wipe the four LED head lens gently with an LED lens cleaner or a soft tissue.

Note! Do not use solvents such as methyl alcohol or thinner as they will damage the lens surface.

Memo An LED lens cleaner is enclosed in an optional replacement toner cartridge.



(4) Close the top cover.



6.4 Cleaning the Pick-up Roller and the Pad

Clean the pick-up roller if lines appear in the vertical direction on the printed page.

Note! Use a soft cloth in order to avoid scratching the roller surface.

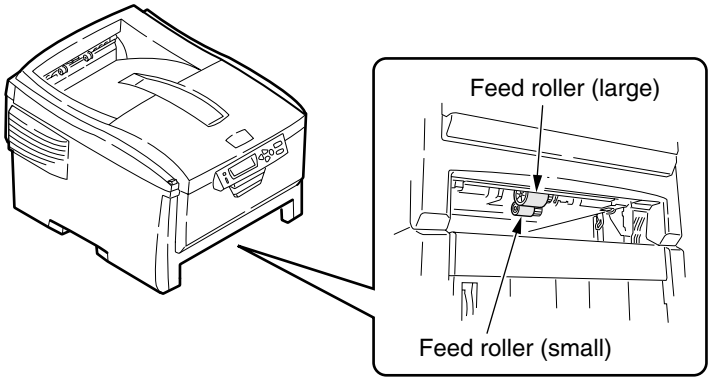
CLEANING THE FEED ROLLER AND THE PAD

Clean the feed roller and the pad when [391: Paper Jam] appears frequently.

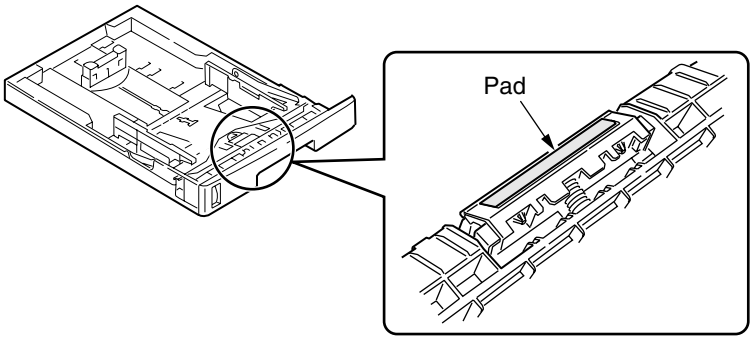
(1) Remove the paper cassette.

(2) Clean the feed rollers (large and small) with tightly wrung wet cloth or an LED lens cleaner.

Note! An LED lens cleaner is enclosed in an optional replacement toner cartridge.



(3) Clean the pad on the paper cassette with tightly wrung wet cloth or an LED lens cleaner.

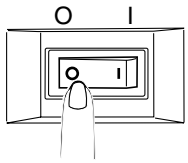


Note!
- If [392: Paper Jam] appears frequently, clean the second tray (option) in the same way.
- If [390: Check MP Tray] appears frequently, clean the feed roller of the multi-purpose tray in the same way.

6.5 Cleaning the Printer Inside

Toner may adhere on a metal shaft that is located between the fuser unit and the cyan image drum cartridge depending on printing patterns.
Please clean the metal shaft when toner adheres on it.

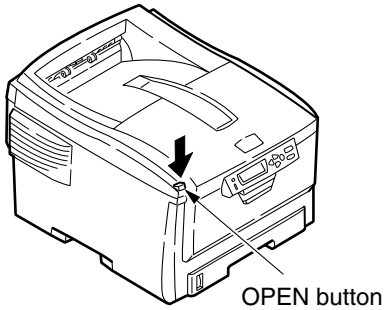
(1) Turn off the printer.



(2) Press down the OPEN button to open the top cover.

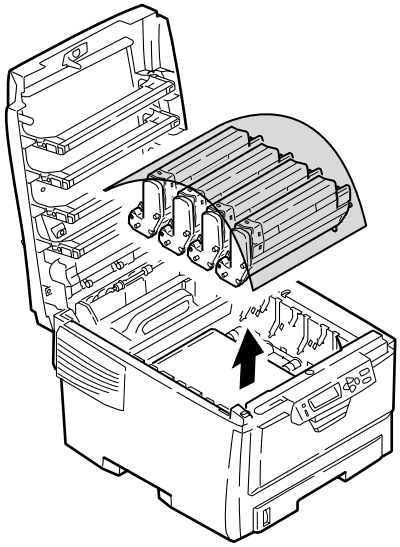
⚠Caution	Personal injuries may occur.	

The fuser unit is extremely hot. Do not touch it.



(3) Remove the image drum cartridge.
1. Uninstall the four image drum cartridges and put them on a flat table.
2. Cover the uninstalled image drum cartridges with black paper.

Note! • Handle the image drum cartridges with enough care because the green cylinder part of them is damaged very easily.
• Do not expose the image drum cartridges to direct sunlight or strong light (approx. 1500 lux or above). Even under room light, do not leave them exposed for five minutes or longer.

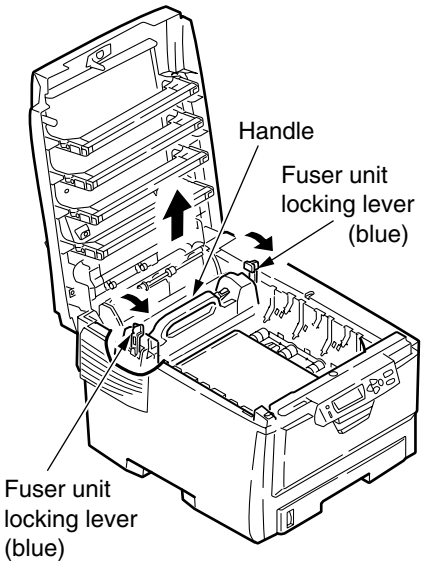


(4) Remove the fuser unit.

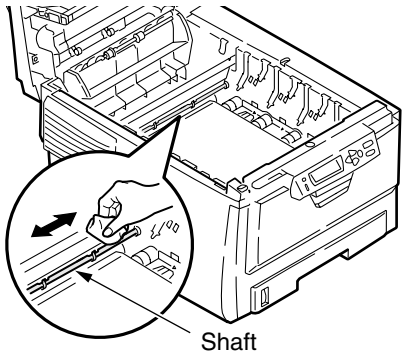
⚠Caution	Personal injuries may occur.	

The fuser unit is extremely hot. Be careful not to touch it. If the fuser unit is hot, do not try yourself to clear paper but wait until the fuser unit becomes cool.

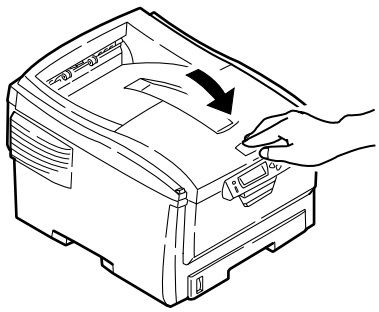
1. Move up the fuser unit locking levers (two blue levers) in the direction of the arrows.
2. Hold the handle and take out the fuser unit.



(5) Clean the metal shaft with an LED lens cleaner, soft cloth, or tissues.



(6) Reinstall the fuser unit.
Read Replacing the Fuser Unit on page 198 for details.
(7) Reinstall the four image drum cartridges gently.
(8) Close the top cover.



7. TROUBLESHOOTING PROCEDURES

7.1 Precautions before troubleshooting

(1) Confirm the basic inspection items described in the user manual.

(2) Obtain as much information regarding the problem from the user as possible.

(3) Check the printer in a condition close to that upon generating the problem.

7.2 Precautions before handling an abnormal image

(1) Confirm that the environment for using this printer is appropriate.

(2) Confirm that consumables (toner, drum cartridge) are replaced appropriately.

(3) Confirm that paper is accurate. Refer to paper specifications.

(4) Confirm that the drum cartridge is set appropriately.

7.3 Precautions upon handling an abnormal image

(1) Do not touch or allow foreign objects to contact the OPC drum surface.

(2) Do not expose the OPC drum to direct sunlight.

(3) Do not touch the fuser unit as it is heated significantly.

(4) Do not expose the image drum to light for longer than five minutes in room temperature.

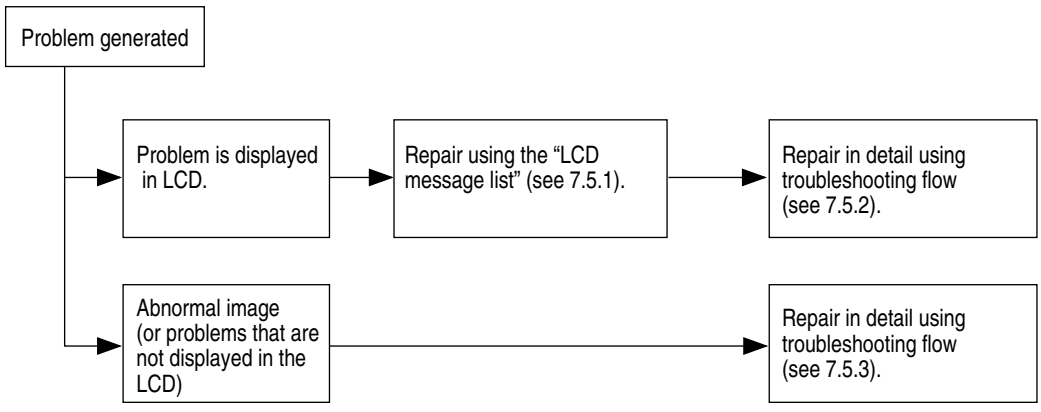
7.4 Preparing for Troubleshooting

(1) Operator panel display

Problems that occur with the printer are indicated in the LCD.
Apply proper remedies according to the message indicated in the LCD.

7.5 Troubleshooting Procedure

Confirm the problem in the following method when the printer generates a problem.



7.5.1 LCD message list

When the printer detects a non-recoverable error, the following service call error is displayed in the LCD.

Service call
nnn: error

Note! nnn is an error code.

When [Service call] is displayed, error information that corresponds to the error code appears in the bottom line in the LCD. Be sure to make a note of, and report to related departments, the descriptive information (such as numeric values that indicate addresses), which is used for troubleshooting. Error codes, their definitions and remedies are described in Table 7-1-1.

Table 7-1-1 Operator Alarm (1/5)

Display on Operator Panel	Ready LED	Attention LED	Description	Code nnn
POWER OFF/ON nnn: NETWORK ERROR	OFF	Blink	A network error is occurring.	300
CLOSE COVER nnn:COVER OPEN	OFF	Blink	Cover is open. TOP (Top Cover) FRONT (Front Cover) (When either the upper or front cover is open, 310 and 311 appear in toggle because the sensor cannot identify which cover is open.)	 310 311
CLOSE COVER nnn: DUPLEX COVER OPEN	OFF	Blink	Cover is open. DUPLEX	316
CHECK FUSER nnn: FUSER MISSING	OFF	Blink	Fuser unit is not correctly installed.	320
CHECK BELT nnn: BELT MISSING	OFF	Blink	Belt unit is not correctly installed.	330
CHECK IMAGE DRUM nnn: * DRUM MISSING	OFF	Blink	Drum is not correctly installed. Y M C	 340 341 342
CHECK IMAGE DRUM & BELT LOCK nnn: K DRUM MISSING	OFF	Blink	Belt is unlocked or black drum is not correctly installed. K	343
REPLACE IMAGE DRUM nnn: * DRUM LIFE	OFF	Blink	Drum life. Warning status takes effect at cover open/close. When the printer printed 500 pages (value of PU/FW 00.80. PU/FW 00.79 & 20 pages), the error occurs again. Y M C K	 350 351 352 353
REPLACE FUSER nnn: FUSER LIFE	OFF	Blink	Fuser life. Warning status occurs at cover open/close. When the printer printed 500 pages, the error occurs again.	354

Table 7-1-1 Operator Alarm (2/5)

Display on Operator Panel	Ready LED	Attention LED	Description	Code nnn
REPLACE BELT nnn: BELT LIFE	OFF	Blink	Belt life. Warning status takes effect at cover open/close. When the printer printed 500 pages the error occurs again.	355
REPLACE BELT nnn: BELT LIF	OFF	Blink	Water toner full. Warning status takes effect at cover open/close. When the printer printed 500 pages, the error occurs again.	356
INSTALL DUPLEX UNIT nnn: DUPLEX UNIT OPEN	OFF	Blink	Displayed if jam is occurring in Duplex Unit and the Duplex unit is removed. If a user removes the Duplex Unit when jam is not occurring in the Duplex unit, Service Call Error 181 occurs.	360
OPEN DUPLEX COVER nnn: PAPER JAM	OFF	Blink	JAM has occurred nearby DUPLEX unit. Duplex Reversal Duplex Input Multifeed in Duplex Unit.	 370 371 373
OPEN TOP COVER nnn: PAPER JAM	OFF	Blink	JAM has occurred in paper path. Transport Exit Duplex Entry Printing Page Lost	 381 382 383 389
CHECK MP TRAY nnn: PAPER JAM	OFF	Blink	JAM has occurred. MP TRAY1	 390
OPEN FRONT COVER nnn: PAPER JAM	OFF	Blink	JAM has occurred. TRAY1 TRAY2 FEED DUPLEX	 391 392 380 372
OPEN FRONT COVER nnn: PAPER SIZE ERROR	OFF	Blink	Notifies inappropriate size paper was fed from a tray. Normal paper is automatically ejected and the error message appears. Cover open and close performs error recovery. Removing remaining paper, if any, and closing the cover perform recovery printing.	400
REPLACE TONER nnn: * TONER EMPTY	OFF	Blink	******* toner empty Y M C K Warning status takes effect at Cover Open/Close, while allowing printing approx 50 pages . (A4, density 5%).	 410 411 412 413
REPLACE TONER nnn:* WASTE TONER FULL	OFF	Blink	* waste toner will fill up the box.Toner replacement is necessary. Y M C	 414 415 416

Table 7-1-1 Operator Alarm (3/5)

Display on Operator Panel	Ready LED	Attention LED	Description	Code nnn
ADD MORE MEMORY nnn: MEMORY OVERFLOW	OFF	Blink	Memory capacity overflows. Press ON-LINE switch so that printing continues. Install expansion RAM or decrease data size.	420
INSTALL PAPER CASSETTE nnn:TRAY1 MISSING	OFF	Blink	Tray1 cassette of paper to which printing is intended is removed, and paper cannot be fed.(When Tray2 exists)	430
INSTALL PAPER CASSETTE nnn:TRAY1 OPEN	OFF	Blink	Tray1 cassette that is a paper path for the paper loaded from Tray2 to be printed to is removed.	440
LOAD mmm/ppp AND PRESS ONLINE SWITCH nnn: ttttttt MEDIA MISMATCH	OFF	Blink	The media type in the tray does not match the print data. Load mmm/ppp paper in ttttttt tray. MPTRAY (MP Tray) TRAY1 (Tray 1) TRAY2 (Tray 2)	 460 461 462
LOAD mmm/ppp AND PRESS ONLINE SWITCH nnn: ttttttt SIZE MISMATCH	OFF	Blink	The media size or both media size and media type in the tray does not match the print data. Load mmmmmmmmm/ppppppp paper in ttttttt tray. MPTRAY (MP Tray) TRAY1 (Tray 1) TRAY2 (Tray 2)	 460 461 462
LOAD mmm AND PRESS ONLINE SWITCH nnn:MP TRAY EMPTY	OFF	Blink	Paper feed from MPTRAY is attempted, but the tray is empty. Loading mmm paper and pressing the On-line switch will start printing. MP TRAY (MP Tray)	 490
LOAD mm nnn: ttttttt EMPTY	OFF	Blink	Printing request is issued to an empty ttttttt tray. Printing request is issued to Tray2 which is opened.. Printing request is issued to Tray1 which is opened when Tray2 is not exist. Load Mmmmmmmmm paper. TRAY1 (Tray 1) TRAY2 (Tray 2)	 491 492
CHECK TONER CARTRIDGE nnn:* TONER SENSOR ERROR	OFF	Blink	Something is wrong with Toner Sensor. If the Engine setting is Factory mode, error display appears as mentioned later. Y M C K	 540 541 542 543
NETWORK CONFIG WRITING	ON	ON	Saving the Network configration to Flash memory when setting item which relate to Network was changed.	
NETWORK INITIAL WAIT A MOMENT	Varies	Varies	Network initializing.	

Table 7-1-1 Operator Alarm (4/5)

Display on Operator Panel	Ready LED	Attention LED	Description	Code nnn
HAVE YOU REPLACED * TONER? Y=ENTER/N=CANCEL	OFF	Blink	Displayed to confirm whether the user has replaced the * toner after Cover Open/Close. (This is because in case of Waster Toner Full, toner replacement cannot be automatically recognized.). The press of ENTER will reset the toner counter while clearing WASTE TONER FULL error. The press of CANCEL will bring the printer to waste toner full warning status. Y M C	
DOWNLOAD MODE DATA RECEIVE	OFF	ON	Download mode when download data is received in normal operation. Show download data is receiving.	
DOWNLOAD MODE DATA RECEIVED OK			Receiving download data has finished.	
DOWNLOAD MODE REC DATA ERROR *			An error occurs when receiving download data. 1 FSize error 2 Checksum error 3 Print model No. error 4 Module I/F version error 5 FAT Version error	
DOWNLOAD MODE DATA WRITING			Download data is writing.	
DOWNLOAD MODE DATA WRITTEN OK			Writing download data has finished.	
DOWNLOAD MODE DATA WRITE ERROR			An error occurs when writing download data. 1 Memory alloc error 2 Download File error 3 Device free-space reserving error 4 Device free-space insufficient error 5 File Write error 6 CU-F/W Mismatch error	
REBOOTING d	OFF	ON	Rebooting. d: Decimal value (1 digit). Shows a cause of the rebooting. d = 0 Not listed below = 1 PJL command = 2 Changing the menu = 3 QUIT operator in PostScript language = 4 Changing the NIC setting (including from Web Page)	
DOWNLOAD MODE	ON	OFF	Download Mode after the printer was powered on with pressing the Online switch. The mode that the printer to ready to receive download data.	
DOWNLOAD MODE DATA RECEIVE	Blink	OFF	Receiving download data.	

Table 7-1-1 Operator Alarm (5/5)

Display on Operator Panel	Ready LED	Attention LED	Description	Code nnn
DOWNLOAD MODE DATA RECEIVED OK	ON	OFF	Finished receiving download data.	
DOWNLOAD MODE REC DATA ERROR <No.***>	ON	ON	An error occurs when receiving download data 001 Size error 002 Checksum error 003 Printer model No. error 004 Module I/F version error 005 FAT Version error	
DOWNLOAD MODE DATA WRITING	Blink	OFF	Writing download data.	
DOWNLOAD MODE DATA WRITTEN OK	ON	OFF	Finished writing download data.	
DOWNLOAD MODE DATA WRITE ERROR <No.***>	ON	ON	An error occurs when writing download data 011 Memory alloc error 012 Download File error 013 Device free-space reserving error 014 Device free-space insufficient error 015 File Write error 016 CU-F/W Mismatch error	
INITIALIZING	OFF	OFF	The controller side is initializing.	
RAM CHECK\ **********	OFF	OFF	RAM checking. * appears after every 1/16 of the total amount has been checked.	
POWER OFF/ON AND WAIT FOR A WHILE 126:CONDENSING ERROR	OFF	Blink	(See the list of Service Calls.)	Fatal
POWER OFF/ON nnn: FATAL ERROR	OFF	Blink	(See the list of Service Calls.)	Fatal
SERVICE CALL nnn: FATAL ERROR	OFF	Blink	(See the list of Service Calls.)	Fatal

Table 7-1-2 Service Call Error (1/7)

Message	Cause	Error Description		Solution
Service call 001:Error(C5450/C5400)	Machine Check Exception Hardware fault detected. (Board defectiveness or Shortage of power supply volume)			Replace SPA board.
Power off/on 002:Error ~ 006:Error 007:Error(C5450/C5400)	CPU Exception	Does error display reappear?	Yes	Power OFF/ON Replace ARC/SPA board.
service 020:Error (C5250/C5200/C5150/ C3200n/C3200/C3100)	CU ROM Hash Check Error	Does error display reappear? (the case of a device which program ROM is attached to board directly.)	Yes	Power OFF/ON Replace ARC/SPY board.
Service call 020:Error(C5450/C5400)	CU Program ROM Hash Check Error	Is program ROM DIMM set properly? Is error recovered by replacing program ROM DIMM? (the case of a device which program ROM is set to DIMM Slot.)	No Yes No	Reset ROM DIMM Replace program ROM DIMM. Replace SPA board.
Service call 023:Error(C5450/C5400)	CU Font ROM Hash Check Error	Does error display reappear?	Yes	Power OFF/ON Replace SPA board.
Service call 030:Error	CU RAM Check Error	Does error display reappear?	Yes	Power OFF/ON Replace ARC/SPY/SPA board.
Service call 031:Error	CU Optional RAM Check Error	Is RAM DIMM set properly? Is error recovered by replacing RAM DIMM?	No Yes No	Reset RAM DIMM. Replace RAM DIMM. Replace ARC/SPY/SPA board.
Service call 035:Error(C5450/C5400)	CU Optional RAM Spec Error CU RAM DIMM is not adjust to the specification.	Is RAM DIMM genuin? Is RAM DIMM set properly? Is error recovered by replacing RAM DIMM?	No No Yes No	Use genuine RAM DIMM. Reset RAM DIMM. Replace RAM DIMM. Replace SPA board.
Service call 040:Error	CU EEPROM Error	Does error display reappear?	Yes	Power OFF/ON Replace ARC/SPY/ SPA board.
Service call 041:Error	CU Flash Error Flash ROM Error on the CU board.	Does error display reappear?	Yes	Power OFF/ON Replace ARC/SPY/SPA board.

Table 7-1-2 Service Call Error (2/7)

Message	Cause	Error Description		Solution
Service call 042:Error ~ 044:Error	Flash File System Error	Failed access to Flash set directly on CU board.		Run forced initialization of Flash.(Note that NIC-F/W and Mac address is deleted. After the initialization, it is need to download NIC-F/W and/or Mac address by Maintenance utility.) In the case of before CU-F/W G1.26/X1.26, Press "+", "-", "CANCEL" to turn power ON. And after CU-F/W G1.27/X1.27, execute FLASH FORMAT of MAINTENANCE MENU of SYSTEM MAINTENANCE MENU. Release buttons when [FLASH FORMAT] appears, wait until [ONLINE] (2min) and Replace ARC/SPY/SPA board if symptom does not change.
Service call 051:Error(C5450/C5400)	CU Fan Error Abnormal CPU cooling fan on CU board.	Is CU Fan connector set properly? Is error recovered by replacing fan?	No Yes No	Connect properly. Replace fan. Replace SPA board.
Service call 052:Error(C5450/C5400)	DMA Abort Error detected in Image processor.	Does error reoccur?	Yes	Power OFF/ON. Replace SPA board.
Power off/on 070:Error(C5450/C5400)	PSE firmware fault detected.	Does error reoccur?	Yes	Power OFF/ON. Replace SPA board.
Power off/on 072:Error xx	Engine I/F Error I/F error between PU-CU.	Is CU assembly set properly? Is error recovered by replacing ARC/SPY/SPA board?	No Yes No	Set properly. Replace ARC/SPY/SPA board. Replace PU board (PRN)
Power off/on 073:Error xxxxxxxx	Video Error Fault detected when image data is extended.	[C5200/C5150/C3100] Is CU assembly set properly? Fault again?	No Yes Yes	Set properly. Replace to high-performance PC or drop resolution of data and print again. Replace ARC/SPY board
		[C5400] Is CU assembly set properly?	No Yes	Set properly. Replace SPA board.
Power off/on 074:Error xxxxxxxx 075:Error xxxxxxxx	Video Error Fault detected when image data is extended.	Is CU assembly set properly?	No Yes	Set properly. Replace ARC/SPY/SPA board.

Table 7-1-2 Service Call Error (3/7)

Message	Cause	Error Description		Solution
Service call 104:Error	Engine EEPROM setting check is OK when power ON. Then detect read/ write error.	Does error reoccur?	Yes	Power OFF/ON Replace PU board (PRN)
Service call 105:Error	An error detected by checking, at printer's power-om, EEPROM installation.	Does error reoccur?	Yes	Power OFF/ON Replace PU board (PRN)
Service call 106:Error	Abnormal engine control logic.	Does error reoccur?	Yes	Power OFF/ON Replace PU board (PRN)
Service call 111:Error	Detected illegal Duplex Unit.	Is Duplex Unit of C5300/C5100 installed?	Yes	Install Duplex Unit of C5400/C5200.
Service call 112:Error	Detected illegal 2nd Tray.	Is 2nd Tray of C5300/C5100 installed?	Yes	Install 2nd Tray of C5400/C5200.
Service call 121:Error	High-voltage power supply I/F error.	Is cable between PU board and high-voltage power unit connected properly? Is there no improperly connections?	No Yes No	Connect properly. Check improper connections for high-voltage. Replace high-voltage power supply.
Service call 122:Error	Low-voltage power supply fan error. Low-voltage power supply temperature error.	Is fan in low-voltage power supply unit operating? Is fan connector connected properly?	No Yes No Yes	Check connections for connector of fan. Replace low-voltage power supply. Replace fan motor. Replace low-voltage power supply.
Service call 123:Error	Abnormal environment humidty / Not connected humidity sensor.	Does error reoccur?	Yes	Power OFF/ON Replace the operator panel board (PRP)
Service call 124:Error	Abnormal environment temperature.	Does error reoccur?	Yes	Power OFF/ON Replace the operator panel board (PRN)
Service call 126:Error	Condensation in the printer was detected.	Condensation iss likely to occur in printers carried from the outside. Turn on the printer again after it is exposed to room temperature for two hours to half a day. Does the error reoccur?	 Yes	Turn on the printer again after it is left alone. Replace the operator panel board (PRP)
Service call 127:Error	Error detected at the fuser unit cooling fan.	Is fan connector connected properly? Does error reoccur?	No Yes No	Connect properly again. Replace fan motor Replace PU board (PRN)
Service call 131:Error ~ 134:Error	LED head fault detected. (131 = Y, 132 = M, 133 = C, 134 = K)	Is LED head properly set? Does error reoccur?	No Yes Yes	Set properly for LED head unit. Turn power ON again. Replace LED head unit

Table 7-1-2 Service Call Error (4/7)

Message	Cause	Error Description		Solution
Service call 142:Error	Error detected at ID position of Up/ Down	Is ID unit set properly? Does error reoccur?	Yes No Yes	Reset ID unit. Turn power ON again. Replace ID Up/Down sensor.
Service call 150:Error ~ 153:Error	ID unit fuse cannot be disconnected. (150 = Y, 151 = M, 152 = C, 153 = K)	Is ID unit setting proper? Does error reoccur? Is error recovered by replacing PRT board?	No Yes Yes No	Reset ID unit. Turn power ON again. After check connections of cable between PRT board and PU board, replace PRT board. Replace PU board (PRN)
Service call 154:Error	Belt unit fuse cannot be disconnected.	Is belt unit setting proper? Does error reoccur?	No Yes Yes	Reset belt unit. Turn power ON again. Check cable connections and, replace PU board(PRN)
Service call 155:Error	Fuser unit fuse cannot be disconnected.	Is fuser unit set properly? Does error reoccur?	No Yes Yes	After cleaning for fuser connector, reset. Turn power ON again. Check cable connections and replace PU board (PRN)
Service call 160:Error ~ 163:Error	Error detected by toner sensor. (160 = Y, 161 = M, 162 = C, 163 = K) It does not occure in factory default setting.	Is toner cartridge setting? Is toner lock lever setting? Does error reoccur?	No No Yes	Set toner cartridge. Turn a lock lever of toner to a fixed position. Replace toner sensor or assembly.
Service call 170:Error 171:Error	Short circuit in fuser thermistor or open detected.	Does error reoccur?	Yes	Turn power ON again. Replace fuser unit.
Service call 172:Error 173:Error	Abnormal temperature detected by fuser thermistor (high-temp or low temp.)	Does error reoccur?	Yes	Turn power ON again. Replace fuser unit.
Service call 174:Error	Short circuit in back up roller thermistor detected (at high temperature).	Does error reoccur?	Yes	Turn power ON again. Replace fuser unit.

Table 7-1-2 Service Call Error (5/7)

Message	Cause	Error Description		Solution
Service call 175:Error	Open of back up roller thermistor detected (at low temperature).	Does error reoccur?	Yes	Turn power ON again. Replace fuser unit.
Service call 176:Error 177:Error	Abnormal (high) temperature of back up roller thermistor detected.	Does error reoccur?	Yes	Turn power ON again. Replace fuser unit.
Service call 181:Error 182:Error	Option unit I/F error. (181 = Duplex Unit, 182 = Option Tray)	Does error reoccur?	Yes	Turn power ON again. After checking connection parts of connector, replace option unit.
Power off/on 190:Error	System Memory Overflow.	Does error reoccur?	Yes	Turn power ON again. Add option RAM DIMM.
Service call 200:Error ~ 202:Error	PU Firmware download Error.	Error occurered while writing over the PU firmware.		Turn the printer OFF/ ON, and retry to download the PU firmware again. (Usually, the procedure (PU firmware download) which isn't done, so this is not occur.)
Power off/on 209:Download Error	Media Table download Error.	Downloading Media Table to PU has failure.(Related to Custom Media Type)		Turn the printer OFF/ ON, and retry to download the PU firmware, again. (Usually, the procedure isn't done, so this is not occur.)
Power off/on 203:Error 204:Error 207:Error 208:Error 210:Error ~ 214:Error F0C:Error F0D:Error(C5450/C5400 only) FFE:Error(C5450/C5400 only) FFF:Error	An error was detected of the CU program. (203~214 is not occure in usual operating.)	Reinstall the CU board. Is the error message displayed again?		After turn power OFF, check connections between CU board and PU board. Then turn power ON again.
Service call 220:Error	False setting of a record medium detected by a print statistics.	Take off the HDD or replaced?	Yes	Reset original HDD.

Table 7-1-2 Service Call Error (6/7)

Message	Cause	Error Description		Solution
Power off/on 901:Error 902:Error	Short or open in belt thermistor detected.	Is belt thermistor cable setting proper? Does error reoccur?	No Yes Yes	Connect cable set properly again. Turn power ON again. Replace belt thermistor.
Power off/on 903:Error 904:Error	Abnormal temperature detected by belt thermistor (high-temp or low temp.)	Is belt thermistor cable setting proper? Does error reoccur?	No Yes Yes	Connect cable set properly again. Turn power ON again. Replace belt thermistor and leave aside for 30 min. Then turn power ON again.
Service call 905:Error	An open error of frame thermistor (defective thermistor or improper connection) detected.	Does error reoccur?	Yes	Turn power ON again. Replace the fuser unit.
Service call 906:Error	A short circuit error of frame thermistor (defective improper) detected.	Does error reoccur?	Yes	Turn power ON again. Replace the fuser unit.
Service call 907:Error	A high temperature error (over 150°C) of frame thermistor detected.	Does error reoccur?	Yes	Turn power ON again. Replace the fuser unit.
Service call 908:Error	A low temperature error (below [environmental temperature minus 10]°C) of frame thermistor detected.	Does error reoccur?	Yes	Turn power ON again. Replace the fuser unit.
Loader V. xx.xx PW-LSI ERROR	A high-voltage power unit interface error at initialization.	Is the cable between the PU board and the high-voltage power unit connected properly? Is there poor contact?	No Yes No	Connect the cable properly. Check the high-voltage system for poor contact. Replace the high-voltage power unit.
Loader V. xx.xx S-RAM ERROR	A PU board SRAM error.	Does error reoccur?	Yes	Turn on the printer again. Replace the PU board (PRN).

Table 7-1-2 Service Call Error (7/7)

Message	Cause	Error Description		Solution
XXXXXXXXXXXXXXXX CRC CHECK ERR	A PU download data CRC check error.	After PU data (PU firmware, custom media data and LED head adjustment data) downloading, a CRC check error was detected.		Turn on the printer again and redownload the data (during usual printer operation, the downloading is not performed and the error does not occur).
XXXXXXXXXXXXXXXX PU DOWNLOAD MODE	A PU board flash ROM hash check error.	Does error reoccur?	Yes	Turn on the printer again. Replace the PU board (PRN).
XXXXXXXXXXXXXXXX FLASH TOGGLE ERR	A PU board flash ROM writing error.	A flash ROM writing error was detected during the downloading of PU data. Does error reoccur?	 Yes	Turn on the printer again and redownload the data (during usual printer operation, the downloading is not performed and the error does not occur). Replace the PU board (PRN).
XXXXXXXXXXXXXXXX ERR PU-DCON BUSY	An error in communication with the ASIC on the CU board.	Is the CU assy installed properly? Does the printer recover from the error by replacing the ARC/SPY/SPA board.	No Yes No	Reinstall the assy properly. Replace the ARC/SPY/SPA board. Replace the PU board (PRN).
OPECODE TRAP ERR	PU firmware went haywire.	Does error reoccur?	Yes	Turn on the printer again. Replace the PU board (PRN).
BRK INST EXECUTE	PU firmware went haywire.	Does error reoccur?	Yes	Turn on the printer again. Replace the PU board (PRN).
WDT ERROR	PU firmware went haywire.	Does error reoccur?	Yes	Turn on the printer again. Replace the PU board (PRN).
COMMUNICATION ERROR	An error in a PU-CU interface.	Is the CU assy installed properly? Does the printer recover from the error by replacing the ARC/SPY/SPA board.	No Yes No	Reinstall the assy properly. Replace the ARC/SPY/SPA board. Replace the PU board (PRN).

7.5.2 Preparing for troubleshooting

(1)LCD Display Malfunction 191
(1-1)Nothing is displayed in LCD 191
(1-2)The first line is black display in LCD 192
(1-3)Two black characters turning around
(The display changes to “COMMUNICATION ERROR” if you leave them as they are) . 193
(1-4)An error message related to the operation panel is displayed. 193
(1-5)“RAM CHECK” or “INITIALIZING” are displayed 194
(1-6)A wrong operation panel display 194
(2) Irregular Operation of the device after turning on the power 194
(2-1)No operation 194
(2-2)Abnormal sound 195
(2-3)Abnormal odor 196
(2-4)Slow starting time 196
(3) Paper Feed Jam(Error 391:1st Tray) 204
(3-1)Paper feed jam occurs right after turning on the power (1st Tray) 204
(3-2)Paper feed jam occurs right after paper feeding starts (1st Tray) 204
(4) Paper Feed Jam (Error 390:Multi-purpose Tray) 206
(4-1)Paper feed jam occurs right after turning on the power (Multi-purpose Tray) . 206
(4-2)Paper feed jam occurs right after paper feeding starts (Multi-purpose Tray) .. 207
(5) Paper Path Jam(Error 381) 208
(5-1)Paper path jam occurs right after turning on the power 208
(5-2)Paper path jam occurs right after feeding paper 209
(5-3)Paper path jam occurs in a path route 211
(5-4)Paper path jam occurs right after reaching the fuser unit 212
(6) Paper Exit Jam(Error 382) 213
(6-1)Paper exit jam occurs right after turning on the power 213
(6-2)Paper exit jam occurs right after feeding paper 214
(6-3)Paper exit jam occurs in a path route 215
(7) Duplex Print Jam(Error 370,371,372,373,383) 216
(7-1)Duplex print jam occurs right after turning on the power 216
(7-2)Duplex print jam occurs in the Duplex entry 217
(7-3)Duplex print jam occurs in reverse of the paper 217
(7-4)Duplex print jam occurs in the Duplex input 218
(7-5)Paper is not fed to a Resist roller from Duplex section 218
(8) Paper Size Error (Error 400) 218
(8-1)Paper jam occurs when the end of paper is near IN1 sensor. 218
(9) ID Unit Up-Down Error(Service Call 140-143) 219
(9-1)An error occurs in the operation of ID Unit Up 219
(9-2)An error occurs in the operation of ID Unit Down 219
(10)Fuser Unit Error(Error 170-177) 220
(10-1)An error occurs right after turning on the power 220
(10-2)An error occurs in 1 min. from turning on the power 220
(11)Motor Fan Error(Error 120,127,051) 221
(11-1)Low voltage power unit fan or CU fan does not rotate right
after turning on the power 221
(11-2)ID cooling fan does not rotate in printing 221
(11-3)DUPLEX fan does not rotate in DUPLEX printing 221
(11-4)All fans of the device do not rotate 221
(12)Print Speed is Slow (Low Performance) 222
(12-1)Print speed decreases up to 2ppm 222
(12-2)Print speed decreases 222
(13)Option unit is not recognized 222
(13-1)Duplex unit is not recognized 222
(13-2)2nd Tray unit is not recognized 223

(14)LED head is not recognized(Error 131,132,133,134) 223
(14-1)Service Call 131-134(LED HEAD Missing) 223
(15)Toner cartridge is not recognized(Error 540,541,542,543) 224
(15-1)Errors caused by consumables 224
(15-2)Errors caused by toner sensor 226
(15-3)Errors caused by machine defects 227
(16)Fuse Cutout Error (Error 150-155) 228
(16-1)Fuse cutout errors 228
(17)Dew Condensation Errors (Error 123) 228
(17-1)Dew Condensation 228

Note! When replacing engine boards (PRN PCBs), read in the EEPROM chip data from the boards and copy it onto installed new boards.
(Refer to instructions of 5.4.1 “Precautions in replacing engine controller board”)

7.5.2.(1) LCD Display Malfunction

(1-1)Nothing is displayed in LCD

Confirmation Items		Confirmation Tasks	Action at NG
(1-1-1)Confirm fuse			
	FU6 (Fuse) of PU board (PRN PCB)	Confirm that FU6 is not cut.	Change FU6 or PRN PCB.
(1-1-2)Confirm connection systems			
	Connecting the low voltage power unit with a PU board (PRN PCB)	Confirm that a cord is correctly connected to POWER connector of the PU board (PRN PCB) from the low voltage power. Check half connection or incomplete plug-in.	Plug in the cord correctly.
	Cord-Assembly connecting the low voltage power unit with a PU board (PRN PCB)	Check if it is disconnected. Confirm that the cover is not removed. Confirm cord assembly defects such as a lack of line materials. Confirm that a line material supports the connection1pin-1pin.	Change it to the correct cord.
	Connecting a PU board (PRN PCB) with an operation panel board (PRP PCB)	Confirm that 9-pole FFC is correctly connected to OPE connector of the PU board (PRN PCB). Confirm that 9-pole FFC is correctly connected to CN connector of the PU board (PRN PCB). Check half connection or incomplete plug-in.	Plug in the cord correctly.
	FFC connecting a PU board (PRN PCB) with an Operation panel board (PRP PCB)	Check a disconnection with a tester. Confirm that the cover is not removed by eyes.	Change to a normal FFC.
	Operation Panel Board (PRP PCB)	Confirm whether to use a board of C5300/5100 (RSP PCB) for the operation panel board.	Change to C5400/5200 board.
(1-1-3)Confirm the power systems			
	AC Power which is offered to the printer	Check Supply voltage of AC power.	Supply AC power.
	The voltage setting of the low voltage power unit (100V series /230V series)	The measurement of the supplied AC voltage. Check the power setting of the device being used. (Check a short plug for change of the low voltage setting. Short plug with/ without=100V series/ 230V series)	Adjust the low voltage power setting.
	5V Power which is offered to a PU board (PRN PCB)	Check 5V with POWER connector 7,8,9pin of PU board (PRN PCB).	Change of the low voltage power.
	5V Power which is offered to an operation panel board (PRP PCB)	Check 5V with CN connector 4pin of the operation panel board (PRP PCB).	Change to FU6 or PRN PCB.
(1-1-4)Confirm the power short			
	5V power, 3.3V power and 24V power which are offered to a PU board (PRN PCB)	Confirm a short with POWER connector of PU board. 4,5,6pin:24V 7,8,9pin:5V 10,11,12pin:3.3V 13,14,15,16,17pin:0VL 1,2,3pin:0VP For the above, classify location where a short occurs. Identify a short location by plugging off cords connected to PU board (PRN PCB) one by one.	Change the part of the short.

(1-2)The first line is black display in LCD

Confirmation Items	Confirmation Tasks	Action at NG
(1-2-1)Confirm connection systems		
Connecting the low voltage power unit with a PU board (PRN PCB)	Confirm that a cord is correctly connected to POWER connector of the PU board (PRN PCB) from low voltage power. Check half connection or incomplete plug-in.	Plug in the cord correctly.
Cord Assembly connecting the low voltage power unit with a PU board (PRN PCB)	Check if it is disconnected. Confirm that the cover is not removed. Confirm cord assembly defects such as a lack of line materials. Confirm that a line material supports the connection1pin-1pin.	Change it to a correct cord.
Connecting a PU board (PRN PCB) with an operation panel board (PRP PCB)	Confirm that 9-pole FFC is correctly connected to OPE connector of PU board (PRN PCB). Confirm that 9-pole FFC is correctly connected to CN connector of PU board (PRN PCB). Check half connection or incomplete plug-in.	Plug the cord correctly.
FFC connecting a PU board (PRN PCB) with an Operation panel board (PRP PCB)	Check a disconnection with a tester. Confirm that the cover is not removed by eyes.	Exchange to a normal FFC.
Operation Panel Board (PRP PCB)	Confirm whether to use a board of C5300/5100 (RSP PCB) for the operation panel board.	Exchange to C5400/5200 board.
(1-2-2)Confirm the power systems		
3.3V power is offered to a PU board (PRN PCB)	Check 3.3V power with POWER connector 10,11,12pin of the PU board (PRN PCB).	Exchange the low voltage power.
(1-2-3)3.3V power short		
3.3V power which is offered to PU board (PRN PCB)	Confirm a short with POWER connector of the PU board. 10,11,12pin:3.3V 13,14,15,16,17pin:0VL Perform a short check by plugging off LED head I/F cord from CU board. Perform a short check by separating CU board from PU board.	Exchange the LED head, CU board or PU board.
(1-2-4)Confirm the LSI operation		
I/F signal to the operation panel board (PRP PCB) from PU board (PRN PCB)	Confirm that a signal is outputted to OPE connector of PU board (PRN PCB). 3pin:CLK 6pin: Sending data (Sending of PU board) 8pin:CLR The signal is outputted all the time in a normal situation.	Exchange the PU board (PRN PCB).
I/F signal to PU board (PRN PCB) from the operation panel board (PRP PCB)	Confirm that a signal is outputted to OPE connector of PU board (PRN PCB). 5pin:Receive data (Reception of PU board) The signal is outputted all the time in a normal situation.	Exchange the operation panel board (PRP PCB).

(1-3)Two black characters turning around
(The display changes to “COMMUNICATION ERROR” if you leave them as they are)

Confirmation Items		Confirmation Tasks	Action at NG
(1-3-1)Confirm a status of the board installation			
	A connection status of the PU board and CU board	Confirm the fit between CUIF connector of the PU board and PUIF connector of the CU board. (The state of PU-CU board fit)	Loose a screw installing the board to adjust board fit position for an improvement of the fit status.
	Installation status of ROM DIMM of the CU board	Check half connection or incomplete plug-in of ROM DIMM.	Adjust the plug-in condition of DIMM correctly. Change DIMM as required.
	Confirm that an option RAM DIMM/HDD is used for a CU board	Confirm that it operates without RAM DIMM or HDD. Check half connection or incomplete plug-in. Confirm RAM-DIMM or HDD is an OKI model.	Correct the insert condition of DIMM. Exchange an option as required.
(1-3-2)Communication condition between CU-PU			
	Communication condition of the CU side	Confirm that a signal is outputted to CUIF connector of PU board (PRN PCB). 10pin:STSRDY-N(CU Ready Signal) 11pin:CMDIN-N(CU-->PU Data) The signal is outputted from 11pin in a normal situation.	Change ROM DIMM CU or CU board.
	Communication condition of the PU side	Confirm that a signal is outputted to CUIF connector of PU board (PRN PCB). 9pin:STSOUT-N(PU-->CU Data) 12pin:CMDRDY-N(PU Ready Data) The signal is outputted from 12pin in a normal situation.	Change PU board.
(1-3-3)Implementation of the version-upgrade of the PU firm			
	Version-upgrade of PU Firm	It is displayed after the version-upgrade of PU firm. Confirm a PU version with Menu print or a maintenance function.	Implement confirmation such as (1-3-1) and (1-3-2) if it reappears after restarting the power.

(1-4)An error message related to the operation panel is displayed.

Confirmation Items		Confirmation Tasks	Action at NG
(1-4-1)Error Messages			
	Error Message	Confirm the content in a list of the error message.	Follow the instructions.

(1-5)“RAM CHECK” or “INITIALIZING” are displayed

Confirmation Items		Confirmation Tasks	Action at NG
(1-5-1)The operation panel display freezes			
	The operation panel display	Keep "RAM CHECK" or "INITIALIZING" displaying.	Change ROM DIMM of CU or CU board.
	Confirm that an option RAM DIMM/HDD is used for a CU board	Confirm that it operates without RAM DIMM or HDD. Check half connection or incomplete plug-in. Confirm RAM-DIMM or HDD is an OKI model.	Correct the insert condition of DIMM. Exchange an option as required.

(1-6)A wrong operation panel display

Confirmation Items		Confirmation Tasks	Action at NG
(1-6-1)A wrong operation panel display			
	The operation panel display	The first line is shown by a wrong and dilute black display and the second line is not displayed at all.	Upgrade a version of PU firm to a 01.02.02 version and later.

7.5.2.(2) Irregular Operation of the device after turning on the power

(2-1)No operation

Confirmation Items		Confirmation Tasks	Action at NG
(2-1-1)Confirm the power systems			
	AC Power which is offered to the printer	Check Supply voltage of AC power.	Supply AC power.
	The voltage setting of the low voltage power unit (100V series /230V series)	The measurement of the supplied AC voltage. Check the power setting of the device being used. (Check a short plug for change of the low voltage setting[CN5]. Short plug with/ without=100V series/ 230V series)	Adjust the low voltage power setting.
	3.3V power, 5V power and 24V power which are offered to a PU board (PRN PCB)	Check the power with POWER connector of the PU board (PRN PCB). 4,5,6pin:24V 7,8,9pin:5V 10,11,12pin:3.3V 13,14,15,16,17pin:0VL 1,2,3pin:0VP	Change of the low voltage power.
(2-1-2)Confirm connection systems			
	Connection status of the operation panel	Confirm the content of (1-1). The device does not operate until the operation panel is detected and starts.	Follow the content of (1-1).

(2-2)Abnormal sound

Confirmation Items		Confirmation Tasks	Action at NG
(2-2-1)Check for the motor step-out (Driver trouble)			
	Operation statuses of each motor	Confirm each motor operates correctly with the Self-diagnostic Mode. Check the presence of the load. A "beep" sound in an abnormal condition.	Exchange a PU board (PRN PCB) or Motor driver board (PRM PCB).
	Status of the Motor Cord	Confirm cabling status of each motor. Check with eyes and check for shorts with a tester. Detach a motor cord at the board side to confirm resistance between FG and each PIN of the detached cord.	Exchange a motor cord. Connect it appropriately.
(2-2-2)Check for the motor step-out (Load trouble of consumables)			
	Operation statuses of each motor.	Confirm each motor operates correctly with the Self-diagnostic Mode. Check the presence of the load. A "beep" sound in an abnormal condition.	Exchange each consumable. Use FUSE KEEP MODE of the system maintenance menu when using new consumables as a test.
(2-2-3)Check the gear tooth skip (Load trouble of consumables)			
	Operation statuses of each motor.	Confirm each motor operates correctly with the Self-diagnostic Mode. Check the presence of the load. A "crackling sound" in an abnormal condition.	Exchange each consumable. Use FUSE KEEP MODE of the system maintenance menu when using new consumables as a test.
	Status of each consumable set	Check that gears of each consumable are set in a proper position to fit each other with eyes.	Exchange a required mechanical part or repair it.
(2-2-4)Confirm the cabling condition of the cord			
	Cord cabling condition around each cooling FAN	Confirm that cord cabling around FAN is poor condition and a cord does not touch a wing of FAN. A "rattly" sound in an abnormal condition.	Correct cord cabling condition.
(2-2-5)Confirm installation condition of the mechanical parts			
	Confirm installation conditions of insulation films at the back side of CU and PU boards	Detach the boards to check installation condition of the insulation films with eyes.	Correct if they are not hooked in the correct position.

(2-3)Abnormal odor

Confirmation Items		Confirmation Tasks	Action at NG
(2-3-1)Identify a location of abnormal odor			
	Fuser unit	Remove the fuser unit to check the odor.	Implement (2-3-2).
	Low voltage power unit	Remove the low voltage power unit to check the odor.	Exchange a low voltage power unit.
(2-3-2)Confirm a condition of the fuser unit			
	Life Count of the Fuser unit	Check life count of the fuser unit in the Self-diagnostic Mode.	There might be questionable odor if the unit is a sort of brand-new.
	Confirm a foreign object in a fuser unit	Confirm that a foreign object such as paper is not inserted in a fuser unit.	Remove a foreign object.

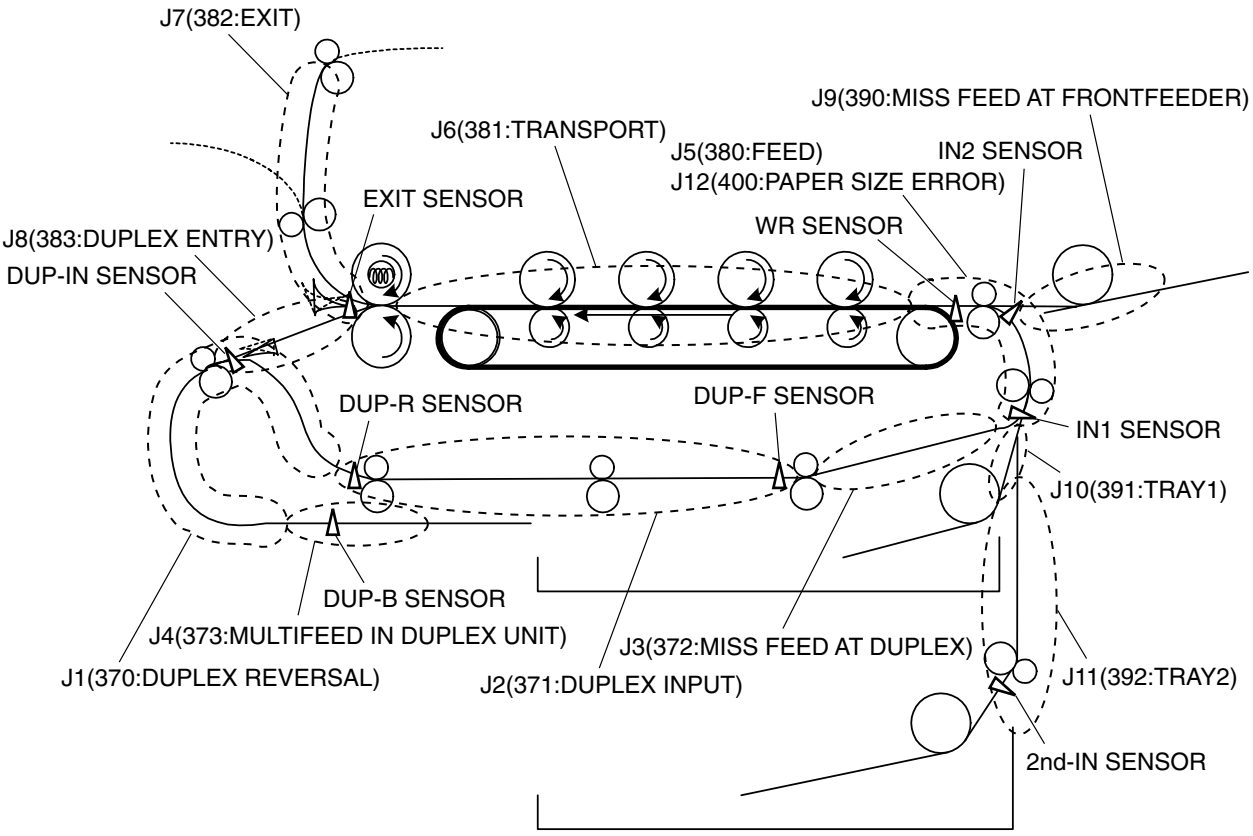
(2-4)Slow starting time

Confirmation Items		Confirmation Tasks	Action at NG
(2-4-1)Check a fuser unit			
	Halogen lamp	Check wattage of Halogen lamp actually installed in a fuser unit.	Exchange to Halogen lamp with wattage in a specification.
(2-4-2)Check option parts			
	Expansion memory, HDD	Reconfirm an operation after resetting option parts. (Expansion memory, HDD)	Exchange option parts.

(3) Error number and jam location at paper jam

Error No.	Name	Reference	Corresponding sensor	Jam release method
370	Duplex reversal	J1	DUP-IN, DUP-R	Jam release method ③
371	Duplex input	J2	DUP-F, DUP-R	Jam release method ③
372	Feed error at Duplex	J3	IN1	Jam release method ①
373	Multi-feed in Duplex Unit	J4	DUP-B	Jam release method ③
380	Feed	J5	IN2, WR	Jam release method ①
381	Transport	J6	IN1, IN2, WR, EXIT	Jam release method ②
382	Exit	J7	EXIT	Jam release method ②
383	Duplex entry	J8	EXIT, DUP-IN, DUP-R	Jam release method ②
390	Feed error at front feeder	J9	IN2, WR	Jam release method ①
391	Tray1	J10	IN1	Jam release method ①, ④
392	Tray2	J11	2nd-IN	Jam release method ④
400	Paper size error	J12	IN1	Jam release method ①

Diagram of jam location



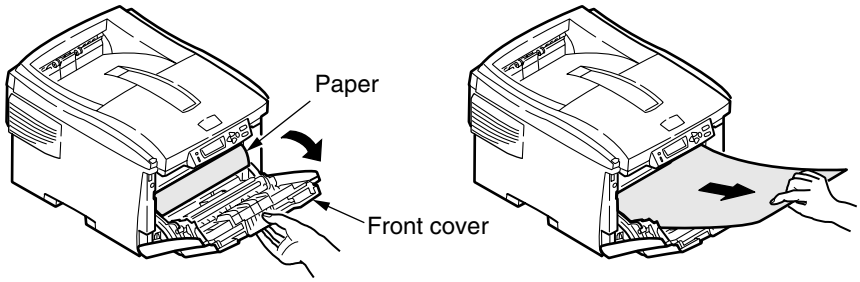
JAM RELEASE METHOD ①

REMOVE THE JAMMED PAPER.

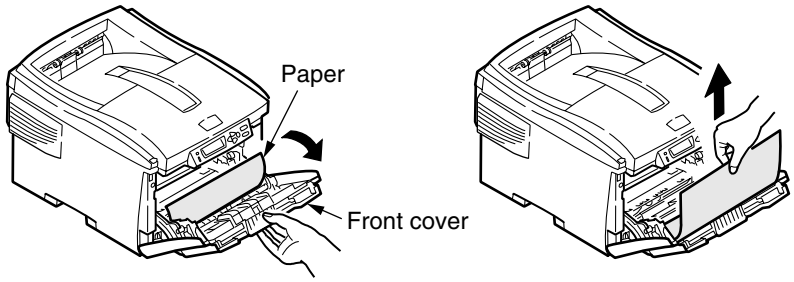
FRONT COVER PART (CODE: 372, 380, 390, 391, 400)

Open the front cover and pull out the jammed paper slowly if you see the top or rear edge of paper. For Code 400, the jammed paper may be ejected automatically. In that case, opening and closing the cover will clear the error.

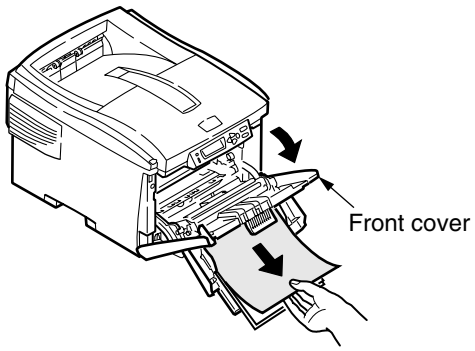
If you see the rear edge of paper



If you see the top edge of paper



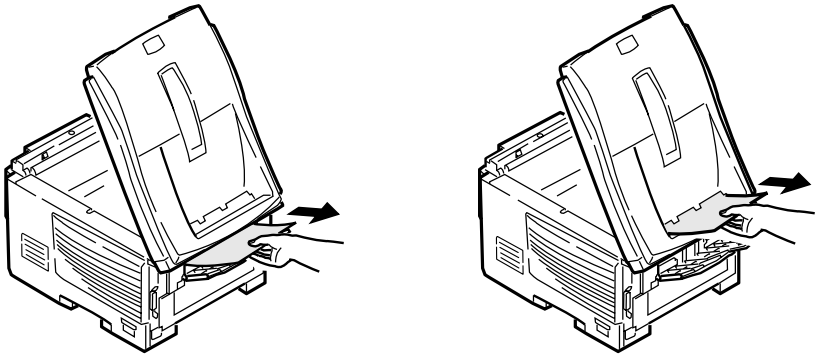
If you do not see the top edge of paper



PAPER EXIT PART (CODE: 382)

Pull out the jammed paper from the exit slowly.

Note! When paper jams at the exit and you see the paper in the tope cover, pull out the paper toward inside of the printer. Pulling out from the exit forcedly may damage the fuser unit.



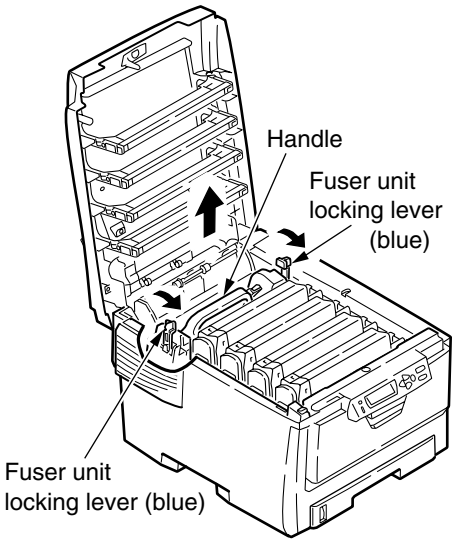
JAM RELEASE METHOD ②

FUSER UNIT PART (CODE: 381, 382, 383)

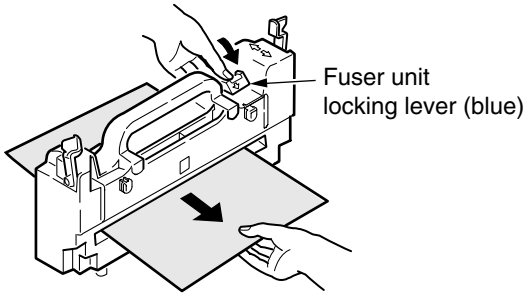
⚠Caution	Possible to get burned.	

The fuser unit is extremely hot. Be careful not to touch it. If the fuser unit is hot, do not try yourself to clear paper but wait until the fuser unit becomes cool.

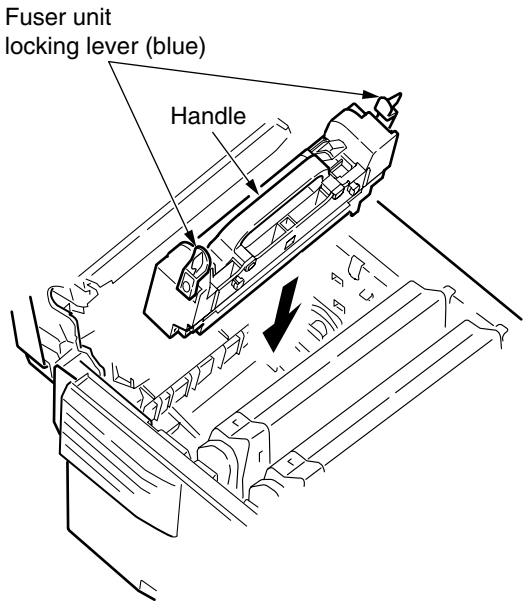
(1) Move up the fuser unit locking levers (two blue levers) in the direction of the arrows.
(2) Hold the handle, take out the fuser unit, and put it on a flat table.



(3) Be sure to slowly pull out the jammed paper (toward the front side) in the direction shown by the arrow as pressing the fuser unit lever (blue) in the direction of the arrow.



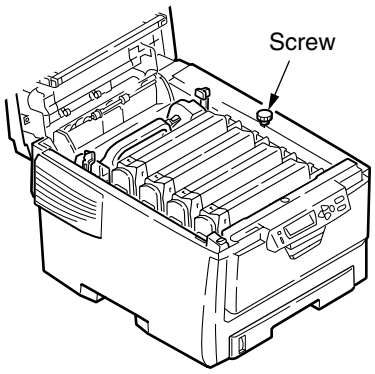
(4) Hold the handle and install the fuser unit on the printer gently.
(5) Move down the fuser unit locking levers (two blue levers) toward the back side and secure the fuser unit.



Note! Print Menu map (Chapter 3.6) or blank sheets several times since toner not fused is left inside the fuser unit after a jammed paper is removed from the fuser unit.

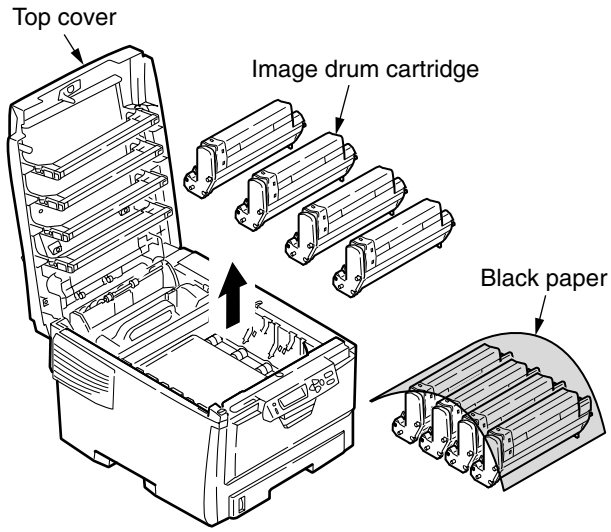
If paper jam error is not corrected after the jammed paper is cleared, clear another jammed paper following the procedures below.

(1) Touch the screw with a hand to discharge static.



(2) Uninstall the four image drum cartridges and put them on a flat table.
(3) Cover the uninstalled image drum cartridges with black paper.

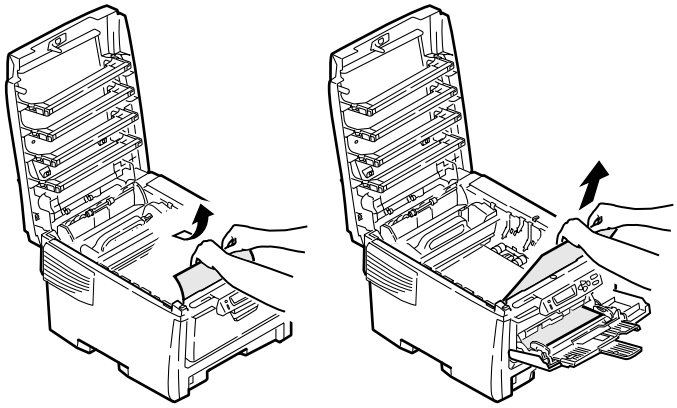
Note! • Handle the image drum cartridges with enough care because the green cylinder part of them is damaged very easily.
• Do not expose the image drum cartridges to direct sunlight or strong light (approx. 1500 lux or above). Even under room light, do not leave them exposed for five minutes or longer.



(4) Slowly pull out the jammed paper.

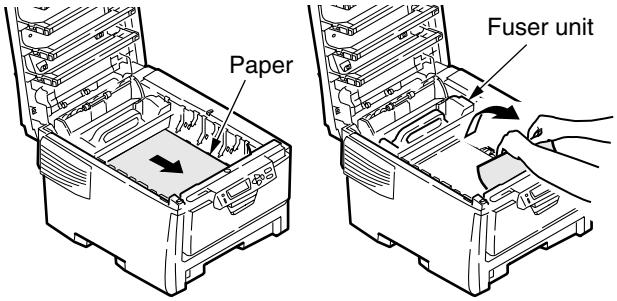
IF YOU SEE THE TOP EDGE OF PAPER

Pull up the jammed paper.



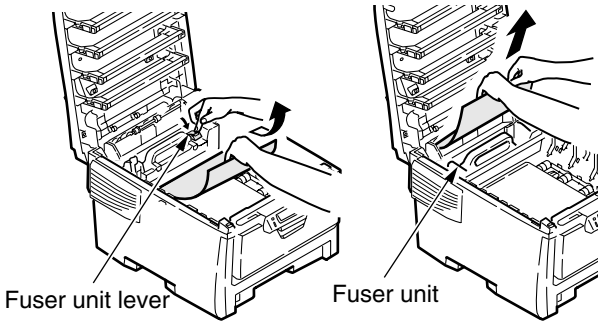
IF YOU SEE NEITHER THE TOP NOR REAR EDGE OF PAPER

Pull the jammed paper in the direction of the arrow and then pull it out slowly.



IF YOU SEE THE REAR EDGE OF PAPER

Pull out the jammed paper slowly as pressing the fuser unit lever in the direction of the arrow.

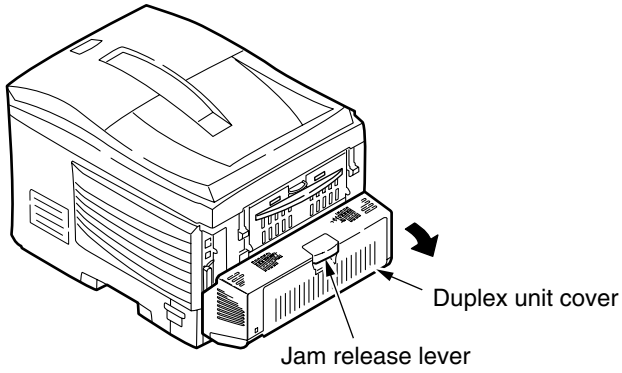


(5) Return the image drum cartridges into the printer.

JAM RELEASE METHOD ③

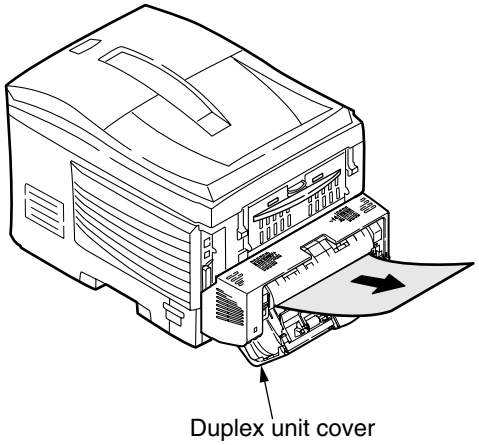
DUPLEX PRINTER UNIT PART (OPTION, CODE: 370, 371, 373)

(1) Press the jam release lever of the duplex printer unit to open the duplex printer unit cover.



(2) Remove the jammed paper. If you don't see the paper, close the duplex printer unit cover. Then the jammed paper is ejected automatically.

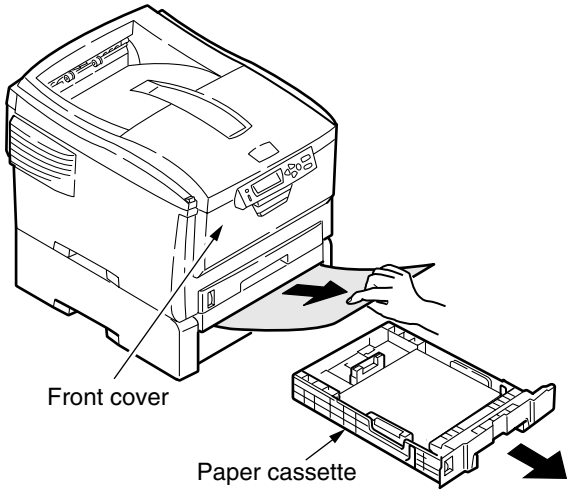
Note! Turn off the printer before uninstalling the duplex printer unit.



JAM RELEASE METHOD ④

SECOND TRAY UNIT PART (OPTION, CODE: 391, 392)

(1) Pull out the paper cassette of the second tray unit to remove the jammed paper.
(2) After clearing the jammed paper, squeeze the handle under the operator panel and open and close the front cover.



7.5.2.(3) Paper Feed Jam(Error 391:1st Tray)

(3-1)Paper feed jam occurs right after turning on the power (1st Tray)

Confirmation Items		Confirmation Tasks	Action at NG
(3-1-1)Confirm a path route condition			
	Paper path route of the front unit	Open a front cover to confirm paper is not jammed in a path route.	Remove jammed paper.
(3-1-2)Confirm status of mechanical parts			
	Check sensor levers at the entrance sensor 1 and 2	Confirm that there is no abnormality in the shape of the sensor lever and in the operation.	Exchange to a normal sensor lever.
(3-1-3)Confirm electric parts			
	Confirm status of the sensor signal detection	Confirm a sensor signal is correctly detected by the SWITCH SCAN function of the maintenance menu.	Exchange a PU board (PRN PCB), Front sensor board (RSF PCB) or a connection board.
	Check output levels of the entrance sensor 1 and 2	Check the following signals with FSNS connector of PU board (PRN PCB). 4pin:Entrance Sensor 1 3pin:Entrance Sensor 2 Confirm that the above signals operate a sensor lever and vary.	Exchange a front sensor board (RSF PCB).
	Check the power of a front sensor board (RSF PCB)	Check 5V power with CN connector of a front sensor board (RSF PCB). 5pin:5V Power 1pin:0VL	Exchange a connection cord.

(3-2)Paper feed jam occurs right after paper feeding starts (1st Tray)

Confirmation Items		Confirmation Tasks	Action at NG
(3-2-1)Confirm a path route condition			
	Paper path route of the front unit	Confirm paper is not jammed in a path route.	Remove jammed paper.
(3-2-2)Confirm condition of mechanical parts			
	Check sensor levers at the entrance sensor 1 and 2	Confirm that there is no abnormality in the shape of the sensor lever and in the operation.	Exchange to a normal sensor lever.
(3-2-3)Confirm condition of the motor operation			
	Paper Feed Motor	Confirm that a paper feed motor operates correctly with Motor & Clutch test of the Self-diagnostic Mode.	Exchange a PU board (PRN PCB) or paper feed motor.
	Paper Feed Motor Driver	Remove HOPKID connector of the PU board (PRN PCB) and check the followings at the connector side. "n"MΩ between 5pin-FG "n"MΩ between 6pin-FG "n"MΩ between 7pin-FG "n"MΩ between 8pin-FG	Exchange a PU board (PRN PCB).

Confirmation Items		Confirmation Tasks	Action at NG
(3-2-4)Confirm connection systems			
	Cord to drive a paper feed motor	Check a connection status of the cord. Check half connection, incomplete plug-in or installation of the cord by eyes.	Correct a connection status. Exchange it to a normal cord.
	Cord to drive a paper feed motor	Confirm that a cord is not stuck when installing of the device. Pull out HOPKID connector of the PU board (PRN PCB) to check the followings at the cord side. A short between 5pin-FG A short between 6pin-FG A short between 7pin-FG A short between 8pin-FG	Return the installation to a right condition by exchanging a cord.
	Paper Feed Motor	Confirm 3.5Ω of resistance is seen between 5pin-6pin,and 7pin-8pin each at the cord side after pulling out HOPKID connector of the PU board (PRN PCB).	Exchange a paper feed motor.
(3-2-5)Check Solenoid Operation State			
	Solenoid for paper feed	Confirm that a solenoid for paper feed operates correctly with Motor & Clutch of the Self-diagnostic Mode. Remove a steel plate at the right side so that a solenoid can be seen and check the operation.	Exchange a PU board (PRN PCB) or a solenoid for paper feed.
	Solenoid for paper feed	Confirm that there is no obstacle for an operation of the solenoid moving part (cord etc.).	Correct a installation state of the device.
(3-2-6)Confirm connection systems			
	Solenoid cord for paper feed	Check a connection status of the cord. Check half connection, incomplete plug-in or installation of the cord by eyes.	Correct a connection status. Exchange it to a normal cord.
	Solenoid cord for paper feed	Confirm that a cord is not stuck when installing of the device. Pull out HCL connector of the PU board (PRN PCB) to check the followings at the cord side. A short between 5pin-FG A short between 6pin-FG A short between 7pin-FG A short between 8pin-FG	Exchange solenoid assembly and recompose correctly.

7.5.2.(4) Paper Feed Jam (Error 390:Multi-purpose Tray)

(4-1)Paper feed jam occurs right after turning on the power (Multi-purpose Tray)

Confirmation Items		Confirmation Tasks	Action at NG
(4-1-1)Check a path route			
	Paper path route for Multi-purpose Tray	Check paper is not jammed in a path route.	Remove jammed paper.
(4-1-2)Confirm status of mechanical parts			
	Check sensor levers at the entrance sensor 2 and WR sensor	Confirm that there is no abnormality in the shape of the sensor lever and in the operation.	Exchange to a normal sensor lever.
(4-1-3)Confirm electric parts			
	Confirm condition of the sensor signal detection	Confirm a sensor signal is correctly detected by the WITCH SCAN function of the Self-diagnostic Mode.	Exchange PU board (PRN PCB), Front sensor board (RSF PCB) or a connection board.
	Check output levels of the entrance sensor 2 and WR sensor	Check the following signals with FSNS connector of PU board (PRN PCB). 2pin:WR Sensor 3pin:Entrance Sensor 2 Confirm that the above signals operate a sensor lever and vary.	Exchange a front sensor board (RSF PCB).
	Check the power of a front sensor board (RSF PCB)	Check V5 power with CN connector of a front sensor board (RSF PCB). 5pin:5V Power 1pin:0VL	Exchange a connection cord.

(4-2)Paper feed jam occurs right after paper feeding starts (Multi-purpose Tray)

Confirmation Items		Confirmation Tasks	Action at NG
(4-2-1)Check a path route			
	Paper path route for Multi-purpose Tray	Check paper is not jammed in a path route.	Remove jammed paper.
	Sheet-Receiver of Multi-purpose tray	Confirm that Sheet-Receiver is correctly lifted up.	Adjust Sheet-Receiver so that it can be lifted up correctly.
(4-2-2)Confirm condition of mechanical parts			
	Check sensor levers at the entrance sensor 2 and WR sensor lever	Confirm that there is no abnormality in the shape of the sensor lever and in the operation.	Exchange to a normal sensor lever.
	Planet gear to control paper feed	Confirm that two planet gears rotate at the bottom by rotating a paper feed motor (FRONT MOTOR) with Motor & Clutch of the Self-diagnostic Mode. (Planet gear box is a white mold part at the right side, opening the front cover.)	Exchange a planet gear box.
	Front Cover	Confirm both right and left locks of the front cover work well.	Exchange a front unit.
(4-2-3)Confirm condition of the motor operation			
	Paper Feed Motor	Confirm that a paper feed motor operates correctly with Motor & Clutch test of the Self-diagnostic Mode.	Exchange a PU board (PRN PCB) or paper feed motor.
	Paper Feed Motor Driver	Remove HOPKID connector of the PU board (PRN PCB) and check the followings at the connector side. "n"MΩ between 5pin-FG "n"MΩ between 6pin-FG "n"MΩ between 7pin-FG "n"MΩ between 8pin-FG	Exchange a PU board (PRN PCB)
(4-2-4)Confirm connection systems			
	Cord to drive a paper feed motor	Check a connection status of the cord. HOPKID connector of the PU board (PRN PCB). Check half connection, incomplete plug-in or installation status of the cord by eyes.	Correct a connection status. Exchange it to a normal cord.
	Cord to drive a paper feed motor	Confirm that a cord is not stuck when installing of the device. Pull out HOPKID connector of the PU board (PRN PCB) to check the followings at the cord side. A short between 5pin-FG A short between 6pin-FG A short between 7pin-FG A short between 8pin-FG	Return the installation to a right status by exchanging a cord.
	Paper Feed Motor	Confirm 3.5Ω of resistance is seen between 5pin-6pin,and 7pin-8pin each at the cord side after pulling out HOPKID connector of the PU board (PRN PCB).	Exchange a paper feed motor.

7.5.2.(5) Paper Path Jam(Error 381)

(5-1)Paper path jam occurs right after turning on the power

Confirmation Items		Confirmation Tasks	Action at NG
(5-1-1)Check a path route			
	Paper path route for a front unit	Check paper is not jammed in a path route.	Remove jammed paper.
(5-1-2)Confirm condition of mechanical parts			
	Check sensor levers of WR sensor	Confirm that there is no abnormality in the shape of the sensor lever and in the operation.	Exchange to a normal sensor lever.
(5-1-3)Confirm electric parts			
	Confirm condition of the sensor signal detection	Confirm a sensor signal is correctly detected by the SWITCH SCAN function of the Self-diagnostic Mode.	Exchange PU board (PRN PCB), Front sensor board (RSF PCB) or a connection board.
	Check output levels of WR sensor	Check the following signals with FSNS connector of PU board (PRN PCB). 2pin:WR Sensor Confirm that the above signal operates a sensor lever and varies.	Exchange a front sensor board (RSF PCB).
	Check the power of a front sensor board (RSF PCB)	Check 5V power with CN connector of a front sensor board (RSF PCB). 5pin:5V Power 1pin:0VL	Exchange a connection cord.

(5-2)Paper path jam occurs right after feeding paper

Confirmation Items		Confirmation Tasks	Action at NG
(5-2-1)Check a path route			
	Paper path route for a front unit	Detach ID unit and check paper is not jammed in a path route.	Remove jammed paper.
(5-2-2)Confirm status of mechanical parts			
	Check sensor levers of WR sensor	Confirm that there is no abnormality in the shape of the sensor lever and in the operation.	Exchange to a normal sensor lever.
(5-2-3)Confirm status of the motor operation			
	Paper Feed Motor, Belt Motor, Each ID Motor	Confirm that a paper feed motor, belt motor and each ID motor operate correctly with Motor & Clutch test of the Self-diagnostic Mode. Check with the presence of the load.	Exchange a PU board (PRN PCB) for a paper feed motor or ID motor, a motor driver board (PRM PCB) for a belt motor. Exchange a paper feed motor, belt motor and ID motor. Exchange an ID unit and belt unit. Use FUSE KEEP MODE of the system maintenance menu when using a new ID unit or belt unit as a test.
	Paper Feed Motor Driver, Belt Motor Driver, Each ID Motor Driver	Remove HOPKID connector of the PU board (PRN PCB) and check the followings at the connector side. "n"M‰ between 1pin-FG "n"M‰ between 2pin-FG "n"M‰ between 3pin-FG "n"M‰ between 4pin-FG "n"M‰ between 5pin-FG "n"M‰ between 6pin-FG "n"M‰ between 7pin-FG "n"M‰ between 8pin-FG Remove COLORID connector of the PU board (PRN PCB) and check the followings at the connector side. "n"M‰ between 1pin-FG "n"M‰ between 2pin-FG "n"M‰ between 3pin-FG "n"M‰ between 4pin-FG "n"M‰ between 5pin-FG "n"M‰ between 6pin-FG "n"M‰ between 7pin-FG "n"M‰ between 8pin-FG "n"M‰ between 9pin-FG "n"M‰ between 10pin-FG "n"M‰ between 11pin-FG "n"M‰ between 12pin-FG Remove BELT connector of the driver board (PRM PCB) and check the followings at the connector side. "n"M‰ between 1pin-FG "n"M‰ between 2pin-FG "n"M‰ between 3pin-FG "n"M‰ between 4pin-FG	Exchange a PU board (PRN PCB) for a paper feed motor or ID motor, a motor driver board (PRM PCB) for a belt motor.

Confirmation Items		Confirmation Tasks	Action at NG
(5-2-4)Confirm connection systems			
	A cord to drive a paper feed motor, an ID motor, belt motor. The power cord for a motor driver board. A signal cord for a motor driver board	Check a connection status of the cord. HOPKID connector of the PU board (PRN PCB) COLORID connector, DRPOE connector, DRSIG connector. BELT connector, POW connector, PUIF connector of the motor driver board. Check half connection, incomplete plug-in or installation status of the cord with eyes.	Correct a connection status. Exchange it to a normal cord.
	A cord to drive a paper feed motor, an ID motor, belt motor	Confirm that a cord is not stuck when installing of the device. Pull out HOPKID connector of the PU board (PRN PCB) to check the followings at the cord side. A short between 1pin-FG A short between 2pin-FG A short between 3pin-FG A short between 4pin-FG A short between 5pin-FG A short between 6pin-FG A short between 7pin-FG A short between 8pin-FG Pull out COLORID connector of the PU board (PRN PCB) to check the followings at the cord side. A short between 1pin-FG A short between 2pin-FG A short between 3pin-FG A short between 4pin-FG A short between 5pin-FG A short between 6pin-FG A short between 7pin-FG A short between 8pin-FG A short between 9pin-FG A short between 10pin-FG A short between 11pin-FG A short between 12pin-FG Pull out BELT connector of the driver board (PRM PCB) to check the followings at the cord side. A short between 1pin-FG A short between 2pin-FG A short between 3pin-FG A short between 4pin-FG	Return the installation to a right condition by exchanging a cord.
	Paper Feed Motor, Each ID Motor, Belt Motor	Remove each connector from a board and confirm that the following resistances are found in each pin terminal. HOPKID connector of the PU board (PRN PCB). Between 1pin-2pin:approx.6‰ Between 3pin-4pin:approx.6‰ Between 5pin-6pin:approx.3.5‰ Between 7pin-8pin:approx.3.5‰ COLORID connector of the PU board (PRN PCB). Between 1pin-2pin:approx.6‰ Between 3pin-4pin:approx.6‰ Between 5pin-6pin:approx.6‰ Between 7pin-8pin:approx.6‰ Between 9pin-10pin:approx.6‰ Between 11pin-12pin:approx.6‰ BELT connector of the motor driver board (PRM PCB). Between 1pin-2pin:approx.3.5‰ Between 3pin-4pin:approx.3.5‰	Exchange a paper feed motor, each ID motor, belt motor.

(5-3)Paper path jam occurs in a path route

Confirmation Items		Confirmation Tasks	Action at NG
(5-3-1)Confirm status of the motor operation			
	Paper Feed Motor, Belt Motor, Each ID Motor	Confirm that a paper feed motor, belt motor and each ID motor operate correctly with Motor & Clutch test of the Self-diagnostic Mode. Check with the presence of the load.	Exchange a PU board (PRN PCB) or a paper feed motor, belt motor or ID motor, or an ID unit, belt unit. Use FUSE KEEP MODE of the system maintenance menu when using a new ID unit or belt unit as a test.
	Paper Feed Motor Driver, Belt Motor Driver, Each ID Motor Driver	Remove HOPKID connector of the PU board (PRN PCB) and check the followings at the connector side. "n"M‰ between 1pin-FG "n"M‰ between 2pin-FG "n"M‰ between 3pin-FG "n"M‰ between 4pin-FG "n"M‰ between 5pin-FG "n"M‰ between 6pin-FG "n"M‰ between 7pin-FG "n"M‰ between 8pin-FG Remove COLORID connector of the PU board (PRN PCB) and check the followings at the connector side. "n"M‰ between 1pin-FG "n"M‰ between 2pin-FG "n"M‰ between 3pin-FG "n"M‰ between 4pin-FG "n"M‰ between 5pin-FG "n"M‰ between 6pin-FG "n"M‰ between 7pin-FG "n"M‰ between 8pin-FG "n"M‰ between 9pin-FG "n"M‰ between 10pin-FG "n"M‰ between 11pin-FG "n"M‰ between 12pin-FG Remove BELT connector of the driver board (PRM PCB) and check the followings at the connector side. "n"M‰ between 1pin-FG "n"M‰ between 2pin-FG "n"M‰ between 3pin-FG "n"M‰ between 4pin-FG	Exchange a PU board (PRN PCB) for a paper feed motor or ID motor, a motor driver board (PRM PCB) for a belt motor.

(5-4)Paper path jam occurs right after reaching the fuser unit

Confirmation Items		Confirmation Tasks	Action at NG
(5-4-1)Confirm status of the motor operation			
	Fuser Motor	Confirm that a fuser motor operates correctly with Motor & Clutch test of the Self-diagnostic Mode. Check with the presence of the load.	Exchange the motor driver board (PRM PCB). Exchange the fuser motor or fuser unit. Use FUSE KEEP MODE of the system maintenance menu when using a new fuser unit as a test.
	Fuser Motor Driver	Remove HEAT connector of the driver board (PRM PCB) and check the followings at the connector side. "n"M‰ between 1pin-FG "n"M‰ between 2pin-FG "n"M‰ between 3pin-FG "n"M‰ between 4pin-FG	Exchange a motor driver board (PRM PCB).
(5-4-2)Temperature control of revolving speed of the roller			
	Heat Roller Detection Temperature	Check detection temperature of the heat roller in the Self-diagnostic Mode and that irregular low or high temperature is not detected.	Exchange a fuser unit or PU board (PRN PCB). Use FUSE KEEP MODE of the system maintenance menu when using a new fuser unit as a test.
(5-4-3)Confirm status of the fuser unit installation			
	Fuser Unit	Confirm that a fuser unit is correctly installed. (whether it is pushed to the most inferior point)	Install to a device

7.5.2.(6) Paper Exit Jam(Error 382)

(6-1)Paper exit jam occurs right after turning on the power

Confirmation Items		Confirmation Tasks	Action at NG
(6-1-1)Check a path route			
	Paper path route for an exit part	Check paper is not jammed in a path route.	Remove jammed paper.
(6-1-2)Confirm condition of mechanical parts			
	Check sensor levers of the paper exit sensor	Confirm that there is no abnormality in the shape of the sensor lever and in the operation.	Exchange to a normal sensor lever.
(6-1-3)Confirm electric parts			
	Confirm condition of the sensor signal detection	Confirm a sensor signal is correctly detected by the SWITCH SCAN function of the Self-diagnostic Mode.	Exchange a PU board (PRN PCB), Exit sensor or connection board.
	Check output levels of Exit sensor	Check the following signals with DRSIG connector of the PU board (PRN PCB). 7pin:Exit Sensor Confirm that the above signal operates a sensor lever and varies.	Exchange an exit sensor.
	Check the power of the motor driver board (PRM PCB)	Check 5V power with Exit connector of the motor driver board (PRM PCB). 1pin:5V Power 3pin:0VL	Exchange a connection cord.
(6-1-4)Confirm connection systems			
	A signal cord for the motor driver board, Exit sensor cord	Confirm that FFC is correctly inserted by DRSIG connector of the PU board (PRN PCB) and PUIF connector of the driver board (PRM PCB). Confirm that a cord is normally connected by a driver board (PRM PCB) and EXIT sensor.	Correct a connection status.
	A signal cord for the motor driver board, Exit sensor cord	Confirm that a cord is not stuck, a cover of the cord does not come off and the installation is appropriate.	Exchange a connection cord and return to a correct installation.

(6-2)Paper exit jam occurs right after feeding paper

Confirmation Items		Confirmation Tasks	Action at NG
(6-2-1)Check a path route			
	Face-up Stacker Cover	Confirm whether the cover is open or closed completely.	Improve half opening and closing.
	Duplex Retracting Gate	Confirm that Duplex retracting gate operates correctly in Motor and Clutch test of the Self-diagnostic Mode and it is positioned in the exit side of the main body.	Exchange a Duplex retracting gate or Duplex solenoid.
	Rear Panel	Check the rear panel is correctly installed. And it does not prevent a path route of the paper.	Reinstall a rear panel.
	Path route of Exit parts	Check that there is no load in a path route by eyes and Exit roller is smooth.	Repair the load part.
(6-2-2)Confirm mechanical parts			
	Sensor Lever of Exit sensor	Confirm that there is no abnormality in the shape of the sensor lever and in the operation.	Exchange to a normal sensor lever.
(6-2-3)Confirm status of the motor operation			
	Fuser Motor	Confirm that a fuser motor operate correctly with Motor & Clutch of the Self-diagnostic Mode. Check with the presence of the load.	Exchange a motor driver board (PRM PCB), fuser motor or fuser unit. Use FUSE KEEP MODE of the system maintenance menu when using a new fuser unit as a test.
	Fuser motor driver	Remove HEAT connector of the driver board (PRM PCB) and check the followings at the connector side. "n"M‰ between 1pin-FG "n"M‰ between 2pin-FG "n"M‰ between 3pin-FG "n"M‰ between 4pin-FG	Exchange a motor driver board (PRM PCB).

Confirmation Items		Confirmation Tasks	Action at NG
(6-2-4)Confirm connection systems			
	A cord to drive a fuser motor. The power cord for a motor driver board. A signal cord for a motor driver board	Check a connection status of the cord. DRPOW, DRSIG connector of the PU board (PRN PCB). HEAT connector, POW connector, PUIF connector of the motor driver board (PRM PCB). Check half connection, incomplete plug-in or installation status of the cord with eyes.	Correct a connection status. Exchange it to a normal cord.
	Cord to drive a fuser motor	Confirm that a cord is not stuck when installing of the device. Pull out HEAT connector of the motor driver board (PRM PCB) to check the followings. A short between 1pin-FG A short between 2pin-FG A short between 3pin-FG A short between 4pin-FG	Return the installation to a right condition by exchanging a cord.
	Fuser Motor	Confirm that the following resistances are seen in each pin terminal at the cord side, removing HEAT connector of the motor driver board (PRM PCB). Between 1pin-2pin:Approx.6‰ Between 3pin-4pin:Approx.6‰	Exchange a fuser motor.

(6-3)Paper exit jam occurs in a path route

Confirmation Items		Confirmation Tasks	Action at NG
(6-3-1)Confirm status of the motor operation			
	Fuser Motor	Confirm that a fuser motor operates correctly with Motor & Clutch of the Self-diagnostic Mode. Check with the presence of the load.	Exchange a motor driver board (PRM PCB), a fuser motor or fuser unit. Use FUSE KEEP MODE of the system maintenance menu when using a new fuser unit as a test.

7.5.2.(7) Duplex Print Jam(Error 370,371,372,373,383)

(7-1)Duplex print jam occurs right after turning on the power

Confirmation Items		Confirmation Tasks	Action at NG
(7-1-1)Check a path route			
	Paper path route of the Duplex unit	Confirm that paper is not jammed in a path route, that paper is not fed from Duplex unit, opening a front cover, that no paper is in a reversal route, that no paper is in a loading slot for the Duplex unit, and that no paper is inside of the printer with opening a path route cover of the Duplex.	Remove jammed paper.
(7-1-2)Check mechanical parts			
	Check a sensor lever of each sensor in the Duplex unit	Confirm that there is no abnormality in the shape of the sensor lever and in the operation.	Exchange to a normal sensor lever.
(7-1-3)Confirm electric parts			
	Confirm status of the sensor signal detection	Confirm a sensor signal is correctly detected by the SWITCH SCAN function of the Self-diagnostic Mode. Other than Dup-IN sensor, confirm a detection status of the sensor under the both conditions that paper is set in the Duplex unit and not set in.	Exchange a Duplex board (V7X PCB), each sensor or a connection cord.

(7-2)Duplex print jam occurs in the Duplex entry

Confirmation Items		Confirmation Tasks	Action at NG
(7-2-1)Check a solenoid operation			
	Duplex Solenoid	Check an operation of the Duplex solenoid with Motor & Clutch of the Self-diagnostic Mode.	Exchange a V7X board or solenoid.
	Separator DUP (Switch gate of output/ DUP input after fusing)	Confirm that an operation of the gate with Motor & Clutch of the Self-diagnostic Mode with eyes (EXIT SOLENOID), whether the operation is smooth or the opening and closing is proper.	Exchange the Separator DUP.
	Timing of ON/OFF for Duplex solenoid	Confirm that a timing of opening the separator DUP is appropriate through test print under the condition that cover is open.	Exchange a WR sensor lever or solenoid.
(7-2-2)Check a sensor lever operation			
	Dup-IN Sensor Lever	By touching, confirm whether a Dup-IN sensor lever is smooth, opening a rear cover.	Exchange a Dup-IN Sensor Lever.
	Dup-IN Sensor	Confirm a sensor signal is correctly detected by the SWITCH SCAN function of the Self-diagnostic Mode.	Exchange a Duplex board (V7X PCB), each sensor or a connection cord.
(7-2-3)Check a path route			
	Reversal transporting path	Confirm that there is no obstacle such as paper piece and burr.	Remove obstacles.
(7-2-4)Confirm condition of the motor operation			
	Duplex Motor	Check an operation of Duplex motor with Motor& Clutch of the Self-diagnostic Mode. Confirm with rotation of the roller opening the rear cover.	Exchange a V7X board or motor.
	Duplex Retracting/Reversal roller and the pinch roller	Confirm that retracting/reversal roller of the Duplex unit touches a pinch roller of the cover when a rear cover of the Duplex unit is closed. (a pinch roller is rotating while the roller is rotating.)	Exchange the rear cover.

(7-3)Duplex print jam occurs in reverse of the paper

Confirmation Items		Confirmation Tasks	Action at NG
(7-3-1)Check a sensor lever operation			
	Dup-IN Sensor Lever	By touching, confirm whether a Dup-IN sensor lever is smooth, opening a rear cover.	Exchange a Dup-IN Sensor Lever.
	Dup-IN Sensor	Confirm a sensor signal is correctly detected by the SWITCH SCAN function of the Self-diagnostic Mode.	Exchange a Duplex board (V7X PCB), each sensor or a connection cord.
(7-3-2)Confirm condition of the motor operation			
	Duplex motor	Check that paper is in reverse from a slit of the rear cover with eyes. Confirm that a planet gear in the Duplex unit operates smoothly when reversal operation is not implemented.	Exchange a planet gear.

(7-4)Duplex print jam occurs in the Duplex input

Confirmation Items		Confirmation Tasks	Action at NG
(7-4-1)Check a sensor lever operation			
	Dup-R,Dup-F Sensor Lever	Confirm an operation of the sensor lever after removing the Duplex unit.	Exchange a sensor lever.
(7-4-2)Confirmation of the sensor			
	Confirm condition of the sensor signal detection	Confirm a sensor signal is correctly detected by the SWITCH SCAN function of the Self-diagnostic Mode. Other than Dup-IN sensor, confirm a detection status of the sensor under the both conditions that paper is set in the Duplex unit and not set in.	Exchange a Duplex board (V7X PCB), each sensor or a connection cord.

(7-5)Paper is not fed to a Resist roller from Duplex section

Confirmation Items		Confirmation Tasks	Action at NG
(7-5-1)Check the operational condition of the clutch			
	Duplex Clutch	Check the performance of the Duplex clutch with Motor & Clutch test of the Self-diagnostic Mode. Check by sounds.	Exchange a V7X board or clutch.

7.5.2.(8) Paper Size Error (Error 400)

(8-1)Paper jam occurs when the end of paper is near IN1 sensor.

Confirmation Items		Confirmation Tasks	Action at NG
(8-1-1)Check a paper feed condition			
	Overlapping paper	Confirm that paper is not overlapped, opening the front cover.	Exchange the top part of the Sheet-Receiver if the same thing occurs again after a jammed paper is removed.
	Paper Size	Confirm that paper size specified for printing corresponds to paper size set in a tray.	Change specified paper size or paper size set in a tray.
	Entrance Sensor 1	Confirm that there is no abnormality in the shape of the sensor lever and in the operation.	Exchange to a normal sensor lever.

7.5.2.(9) ID Unit Up-Down Error(Service Call 140-143)

(9-1)An error occurs in the operation of ID Unit Up

Confirmation Items		Confirmation Tasks	Action at NG
(9-1-1)Confirm the load at UP			
	The load of ID unit at installing or removing	Confirm that there is no irregular load in installing or removing ID unit.	Exchange the ID unit or side plates of the right and left. Use FUSE KEEP MODE of the system maintenance menu when using a new ID unit as a test.
	Grease of the up down link lever at the right and left	Confirm that a slope part of the link lever is greased.	Grease.
	Installation condition of the up down link lever at the right and left	Confirm that there is no part to prevent the operation of the link lever around the link lever. (cord etc.)	Install correctly.
(9-1-2)Up Down Apparatus			
	Installation condition around the link lever	Confirm that the link lever is installed to link to a planet gear for driving.	Install correctly.
	Link lever at the left and right	Confirm that the link lever is set in a proper position of the gear. (Confirm that the link lever is not in a wrong position.)	Install correctly.
(9-1-3)Confirm the sensor			
	Up Down sensor lever (integral construction with the left link lever)	Confirm that there is no abnormality in the shape of the sensor lever and in the operation.	Exchange the left link lever.
	Up Down sensor	Confirm a sensor signal is correctly detected by the SWITCH SCAN function of the Self-diagnostic Mode. Confirm that SCAN status varies under the condition of screening or lighting of the transmitting sensor with paper piece etc.	Exchange a high voltage board.

(9-2)An error occurs in the operation of ID Unit Down

Confirmation Items		Confirmation Tasks	Action at NG
(9-2-1)Confirm the load at Down			
	The load of ID unit in installing or removing	Confirm that there is no irregular load in installing or removing ID unit.	Exchange the ID unit or side plates of the right and left.
	Grease of the up down link lever at the right and left	Confirm that a slope part of the link lever is greased.	Grease.
	Installation condition of the up down link lever at the right and left	Confirm that there is no part to prevent the operation of the link lever around the link lever. (cord etc.)	Install correctly.
(9-2-2)Installation condition of the ID unit			
	Cyan ID unit is installed at minimum	Confirm that Cyan ID is installed in the setting of the N color mode.	Install a dummy cyan ID unit or regular ID.

7.5.2.(10) Fuser Unit Error(Error 170-177)

(10-1)An error occurs right after turning on the power

Confirmation Items		Confirmation Tasks	Action at NG
(10-1-1)Failure of the thermistor			
	Upper thermistor, lower thermistor, frame thermistor	Confirm whether each thermistor is short or open status. Check the resistances by connector pins at the bottom of the fuser unit. (See an attached figure) Upper thermistor Approx. 590KΩ-5338KΩ between2pin-3pin Lower thermistor Approx. 190KΩ-980KΩ between 5pin-6pin Frame thermistor Approx. 23.1KΩ-162KΩ between 8pin-9pin	Exchange the fuser unit. Use FUSE KEEP MODE of the system maintenance menu when using a new fuser unit as a test.
	Installation status of the fuser unit	Confirm that a fuser unit is inserted in a position to which a connector at the bottom of the fuser unit connects.	Reinstall the fuser unit.

(10-2)An error occurs in 1 min. from turning on the power

Confirmation Items		Confirmation Tasks	Action at NG
(10-2-1)Temperature rise of the fuser unit			
	Thermostat, Halogen lamp	Confirm that a fuser unit is hot by a heater control of the fuser unit with a touch of it. Confirm that a value of resistance between 1 pin- 7pin of the connector is about 10Ω.	Exchange the fuser unit. Use FUSE KEEP MODE of the system maintenance menu when using a new fuser unit as a test.
(10-2-2)Temperature rise of the fuser unit			
	Installation condition of the upper thermistor	Confirm whether a temperature to be measured is low because an installation position is further away from the regular position. Check a sensor such as warping by removing the cover of the heater.	Exchange the fuser unit. Use FUSE KEEP MODE of the system maintenance menu when using a new fuser unit as a test.
	Installation condition of the lower thermistor	Confirm whether lower temperature than the regular is detected since the lower thermistor which should be connected is not.	Exchange the fuser unit. Use FUSE KEEP MODE of the system maintenance menu when using a new fuser unit as a test.
(10-2-3)AC inputs for Halogen			
	AC voltage of the low voltage power	Confirm that AC voltage for the heater is normally offered. AC OUT connector between 1pin-3pin of the power.	Exchange the low voltage.
	ON signal of the heater offered to the low voltage power from PU	Confirm that ON signal of the head gear is activated at the timing of warming up. It is "L"-active during ON. POWER connector 18pin of the PU board (PRN PCB).	Exchange the PU board (PRN PCB).

7.5.2.(11) Motor Fan Error(Error 120,127,051)

(11-1)Low voltage power unit fan or CU fan does not rotate right after turning on the power

Confirmation Items		Confirmation Tasks	Action at NG
(11-1-1)Cord connection, Cabling status			
	Low voltage power unit fan, Fuser fan, Cord connection of the CU fan, Cabling status	Confirm that a connector is correctly attached. Confirm that a extension part of the cord does not touch fans.	Reconnect the connector. Correct a cabling route. Exchange the fan.
	Confirm that CU Fan/CU board is normal	Confirm that CU Fan/CU board is normal.	Exchange the CU fan or CU board.

(11-2)ID cooling fan does not rotate in printing

Confirmation Items		Confirmation Tasks	Action at NG
(11-2-1)Cord connection, Cabling status			
	Cord connection of the ID cooling fan, Cabling status	Confirm that a connector is correctly attached. Confirm that a extension part of the cord does not touch fans.	Reconnect the connector. Correct a cabling route. Exchange the fan.

(11-3)DUPLEX fan does not rotate in DUPLEX printing

Confirmation Items		Confirmation Tasks	Action at NG
(11-3-1)Cord connection, Cabling status			
	Cord connection of the Duplex fan, Cabling status	Confirm that a connector is correctly attached. Confirm that a extension part of the cord does not touch fans.	Reconnect the connector. Correct a cabling route. Exchange the fan.
	24V Fuse F1 of the Duplex board (V7X PCB)	Confirm that F1 fuse is not cut.	Exchange the Duplex board (V7X PCB).
	24V supply of the Duplex board (V7X PCB)	Confirm that Fuse FU4 of the PU board (PRN PCB) is not cut PU.	Exchange a PU board (PRN PCB).

(11-4)All fans of the device do not rotate

Confirmation Items		Confirmation Tasks	Action at NG
(11-4-1)The power of 24V			
	Fuse FU 3 of the PU board (PRN PCB)	Confirm that FU 3 is not open.	Exchange the PU board (PRN PCB).
	The power of 24V offered to a PU board (PRN PCB).	Check the power by POWER connector of the PU board (PRN PCB). 4,5,6pin:24V 13,14,15,16,17pin:0VL 1,2,3pin:0VP	Exchange the low voltage power.

7.5.2.(12) Print Speed is Slow (Low Performance)

(12-1)Print speed decreases up to 2ppm

Confirmation Items		Confirmation Tasks	Action at NG
(12-1-1)Environment Temperature			
	Environment temperature of the location where the device is set	Confirm that environment temperature is not too high or it is placed in a small part so that cooling effect can be obtained.	Review the setting environment. (Confirm that there are no obstacles of the induced draft fan.)

(12-2)Print speed decreases

Confirmation Items		Confirmation Tasks	Action at NG
(12-1-2)Media Weight Setting			
	Media Weight setting in printing	Confirm that specified Media Weight is correct.	Correct Media Weight.

7.5.2.(13) Option unit is not recognized

(13-1)Duplex unit is not recognized

Confirmation Items		Confirmation Tasks	Action at NG
(13-1-1)Duplex board			
	Program ROM for Duplex	Confirm that ROM is installed in a board of the Duplex unit.	Install ROM.
	Duplex unit	Confirm that a used duplex unit is for C5250/C5200/5150. (Connection is unavailable for C5100)	Exchange the Duplex unit.
(13-1-2)Confirm connection systems			
	Connection systems to a Duplex board (V7X PCB) from a PU board (PRN PCB)	Confirm that a cord is correctly connected to a Duplex board from DUP connector of the PU board (PRN PCB). In C3200/C3100 model, a certain cord is missing between boards.	Correct the connection system.
	Rectangular connector connecting a Duplex unit with the main body	Confirm that obstacles are stuck in a connection part of the rectangular connector.	Remove the obstacles.
	Rectangular connector connecting a Duplex unit with the main body	Confirm terminals of the rectangular connectors are not broken.	Exchange a connector.
(13-1-3) Check control signals			
	Signals outputted to a Duplex board (V7X PCB) from a PU board (PRN PCB)	Check a signal outputted from the DUP connector of the PU board. 2pin:DUPCLK 3pin:DUPDATA 4pin:DUPDIR	Exchange the PU board (PRN PCB).

(13-2)2nd Tray unit is not recognized

Confirmation Items		Confirmation Tasks	Action at NG
(13-2-1)2nd tray board			
	Program ROM of the 2nd tray	Confirm that ROM is installed in a board of the 2nd tray unit.	Install the ROM.
	2nd tray unit	Confirm that a used 2nd tray unit is for C5250/C5200/5150. (Connection is unavailable for C5100)	Exchange the 2nd tray unit.
(13-2-2)Confirm connection systems			
	Connection systems to a 2nd tray board (V7X PCB) from a PU board (PRN PCB)	Confirm that a cord is correctly connected to a 2nd tray board from 2nd connector of the PU board (PRN PCB). In C3200/C3100/C5510 model, a certain cord is missing between boards.	Correct the connection system.
	Rectangular connector connecting a 2nd tray unit and the main body	Confirm that obstacles are stuck in a connection part of the rectangular connector.	Remove the obstacles.
	Rectangular connector connecting a 2nd tray unit and the main body	Confirm terminals of the rectangular connectors are not broken.	Exchange a connector.
(13-2-3)Check control signals			
	Signals outputted to a 2nd tray board (V7X PCB) from a PU board (PRN PCB)	Check a signal outputted from the 2nd connector of the PU board. 2pin:SCLK 3pin:SD 4pin:SDR	Exchange the PU board (PRN PCB).

7.5.2.(14) LED head is not recognized(Error 131,132,133,134)

(14-1)Service Call 131-134(LED HEAD Missing)

Confirmation Items		Confirmation Tasks	Action at NG
(14-1-1)Confirm connection systems			
	Connection status in a connector of the CU board and a connector of the head.	Check a connection status of FFC by eyes.	Reconnect to set to normal status.
	Head FFC	Remove FFC of the head from the device and check a disconnection or if the cover comes off.	Exchange the head FFC or a CU board.
(14-1-2)Types of LED Head LED head			
	LED head	Confirm that a label number stuck on the LED head. 421431(EEPROM is installed:Normal operation) 426319(EEPROM is not installed:LED HEAD Missing)	Exchange to a head with EEPROM.

7.5.2.(15) Toner cartridge is not recognized(Error 540,541,542,543)

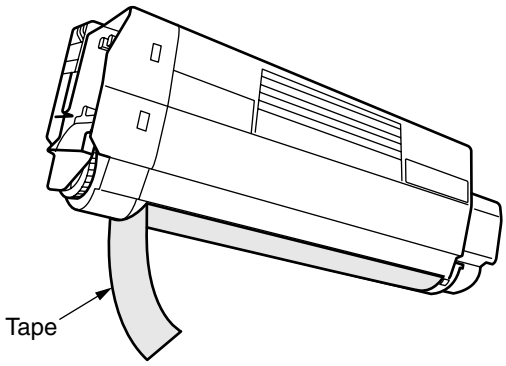
(15-1)Errors caused by consumables

Confirmation Items		Confirmation Tasks	Action at NG
(15-1-1)Installation condition of consumables			
	ID unit and Toner cartridge	Confirm that ID unit is set in a correct position. Confirm that a lock lever of the toner cartridge is locked.	Set to a normal condition again.
	Light reflection of the starter toner cartridge	A light reflector is labeled or coated. Confirm that the label is placed in a correct position and doesn't come off, and coating does not come off and is clean. Note) Coat plentifully because the coating may come off.	Label in a right position again. Or clean the coating.
	Light reflector of the standard toner cartridge.	Confirm that a light reflector operates correctly. (Check with the following procedures)	Exchange a cartridge.
	Light reflector of the standard toner cartridge.	Confirm that a light reflector is clean.	Clean the light reflector.

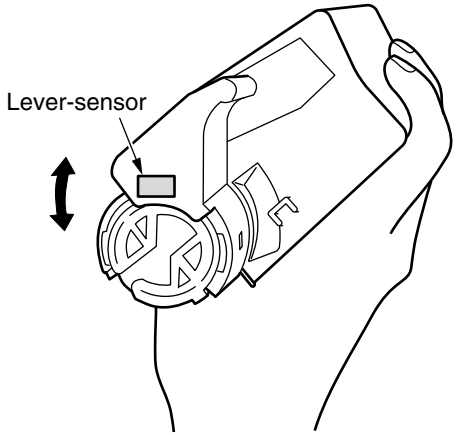
INSTRUCTIONS TO CHECK REFLECTOR OPERATIONS

(1) Open the poly bag, and take out the Toner-cartridge.

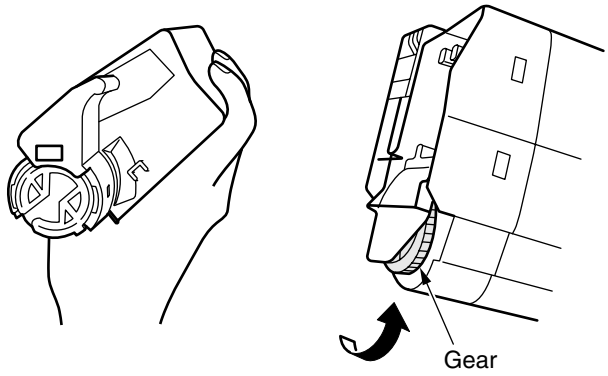
(2) Remove the tape to the position like the figure.



(3) Hold the Toner-cartridge horizontally, so that the Lever-sensor may go up and down vertically.

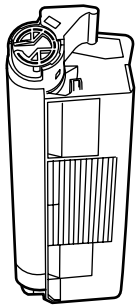


(4) When ti does not see the Lever-sensor like the figure, turn the gear in the direction of the arrow, and it tries to see the Lever-sensor.

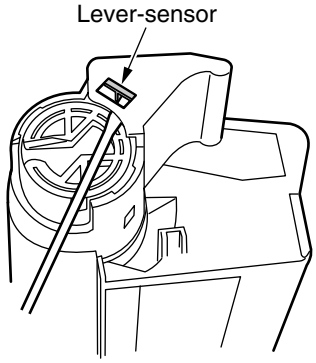


(5) Return the tape to former position.

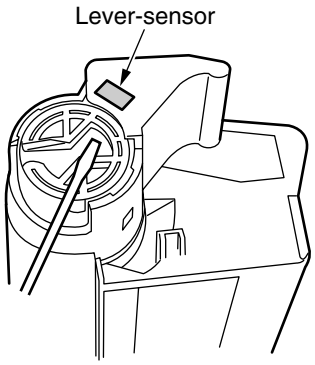
(6) Put the Toner-cartridge vertically.



(7) Move Lever-sensor like the figure.



(8) Confirms the Lever-sensor is returned smoothly.



(9) Repeate (7) and (8), 3 times. The Toner-cartridge is wrong when the Lever-sensor does not work from the position of (7) or when it does not return smoothly.

(15-2)Errors caused by toner sensor

Confirmation Items		Confirmation Tasks	Action at NG
(15-2-1)Toner sensor condition			
	Toner sensor	Confirm that a detection part of the toner sensor is clean.	Clean the sensor.
	Toner sensor	Confirm whether a sensor operates correctly with SWTCH SCAN of the Self-diagnostic Mode. Confirm whether SCAN condition varies by holding a white paper against a sensor.	Exchange a toner sensor board (PRT PCB), PU board (PRN PCB) or FFC between PRT-PRN.

Note! How to check a toner sensor operation with SWITCH SCAN in the self-diagnosis mode.

(1) Confirmation of the operation in the device

1) Change to a display that a changing situation of the toner sensor is confirmed from the operation panel in the self-diagnosis mode.
   Refer to Section 5.4.2.3 Switch Scan Test as for how to display the operation panel.
2) When taking out an ID unit and toner cartridge (TC) from the device, there is a window on the observers' right from the device, in a position across to the side of the TC.
   In that window, a toner sensor is located.
3) Hold up a piece of white paper against a sensor in a place within 3mm from a sensor window.
4) The operation panel displays "L" if a piece of paper has light reflection and it displays "H" if not.
5) By holding up a piece of paper, if the operation panel changes "H"to "L" or "L" to "H", the device operates normally.

Response in NG:

- Clean a toner of the sensor surface and clear paper dust.
- Confirm a connection state of FFC cable between the toner sensor board (PRT) and PU main board (PRN).
- Check an operation again and exchange PU main board (PRN) or a toner sensor board (PRT) if there is no change.

(2) Confirmation of the operation in Toner Cartridge (TC)

1) Install a TC and ID unit in a position where normal operation of the device has confirmed in Confirmation (1) and check operation in the operation panel.
2) The display of the operation panel changes "H" to "L" or "L" to "H" in conjunction with an action of TC white light reflector when operation of TC is normal.

Response in NG:

- Confirm an operation state of each ID motor by MOTOR&CLUTCH TEST in the self-diagnosis mode.
- Clean the surface of the white light reflector at the side of TC. (Dirty from a toner or paper dust.)
- Exchange a TC of a different color and ID unit by the set..
  Exchange a TC or ID unit if the set of the different color is OK.

(15-3)Errors caused by machine defects

Confirmation Items		Confirmation Tasks	Action at NG
(15-3-1)The load condition of the ID unit			
	ID unit	Confirm that the load of the ID unit is not too heavy due to out-of-waste toner belts.	Exchange the ID unit. Use FUSE KEEP MODE of the system maintenance menu when using a new ID unit as a test.
(15-3-2)Confirm the motor condition			
	ID Motor	Confirm whether each ID motor operates correctly with Motor & Clutch of the Self-diagnostic Mode. Check the presence of the load.	Exchange a PU board (PRN PCB) or ID motor.
	ID Motor Driver	Remove HOPKID connector of the PU board (PRN PCB) and check the followings at the connector side. "n"MΩ between 5pin-FG "n"MΩ between 6pin-FG "n"MΩ between 7pin-FG "n"MΩ between 8pin-FG Remove COLORID connector of the PU board (PRN PCB) and check the followings at the connector side. "n"MΩ between 1pin-FG "n"MΩ between 2pin-FG "n"MΩ between 3pin-FG "n"MΩ between 4pin-FG "n"MΩ between 5pin-FG "n"MΩ between 6pin-FG "n"MΩ between 7pin-FG "n"MΩ between 8pin-FG "n"MΩ between 9pin-FG "n"MΩ between 10pin-FG "n"MΩ between 11pin-FG "n"MΩ between 12pin-FG	Exchange the PU board (PRN PCB).
(15-3-3)Confirm connection systems			
	Cord to drive an ID Motor	Confirm that a cord is not stuck when installing of the device. Pull out HOPKID connector of the PU board (PRN PCB) to check the followings at the cord side. A short between 5pin-FG A short between 6pin-FG A short between 7pin-FG A short between 8pin-FG Pull out COLORID connector of the PU board (PRN PCB) to check the followings at the cord side. A short between 1pin-FG A short between 2pin-FG A short between 3pin-FG A short between 4pin-FG A short between 5pin-FG A short between 6pin-FG A short between 7pin-FG A short between 8pin-FG A short between 9pin-FG A short between 10pin-FG A short between 11pin-FG A short between 12pin-FG	Exchange the cord and return to normal condition of the installation.

7.5.2.(16) Fuse Cutout Error (Error 150-155)

(16-1)Fuse cutout errors

Confirmation Items		Confirmation Tasks	Action at NG
(16-1-1)Confirm connection systems			
	FFC connecting a PU board (PRN PCB) with a toner sensor board (PRT PCB)	Check half connection or incomplete plug-in for SSNS connector of the PU board (PRN PCB) and of the toner sensor board (PRT PCB). Confirm that a cord is not stuck and a cover of the cord does not come off by FFC.	Connect FFC appropriately, or exchange FFC.
(16-1-2)Fuse cutout circuit			
	PU board (PRN PCB)	Check the connection systems and turn on the power again to confirm the presence of errors.	Exchange a PU board (PRN PCB).

7.5.2.(17) Dew Condensation Errors (Error 123)

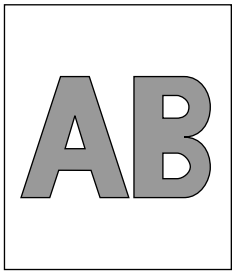
(17-1)Dew Condensation

Confirmation Items		Confirmation Tasks	Action at NG
(17-1-1)Check of the connection			
	Connecting a PU board (PRN PCB) with an operation panel board (PRP PCB)	Confirm that 9-pole FFC is correctly connected to OPE connector of the PU board (PRN PCB). Confirm that 9-pole FFC is correctly connected to CN connector of the PU board (PRN PCB). Check half connection or incomplete plug-in.	Plug in the cord correctly.
	FFC connecting a PU board (PRN PCB) with an Operation panel board (PRP PCB)	Check a disconnection with a tester. Confirm that the cover is not removed by eyes.	Change to a normal FFC.
(17-1-2)Environment			
	Wide change of the environment	Confirm that environment temperature rises at short times. (For instance, transferring from cold climates to office environment)	Turn on the power after placing an object in a new environment for an hour to acclimatize it to. When turning on the power, confirm that chassis temperature of the device becomes about the same as a steel plate or inside plate.

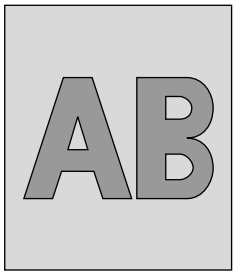
7.5.3 Image Problem Troubleshooting

(1) Color is totally pale (Fig.7.2 A) 230
(1-1)Color is pale 230
(2) Background is dirty (Fig.7.2 B) 231
(2-1)Background is dirty (partly) 231
(2-2)Background is dirty (totally) 231
(3) Blank Print (Fig.7.2 C) 232
(3-1)Blank on the whole page 232
(4) Vertical lines are printed 233
(4-1)Thin vertical lines (with color) (See Fig.7.2 D) 233
(4-2)Thin vertical lines (without color) (See Fig.7.2 F) 233
(5) Cyclic Print Trouble (Refer to Fig.7.2 E) 234
(5-1)Vertical cyclic print trouble 234
(6) Color drift is wide. 235
(6-1)"IN ADJUSTING COLOR REGISTRATION" is shown only a short time 235
(6-2)Although REG ADJUST TEST of the engine maintenance function is OK, Color drift is seen 235
(7) Solid Black Print 236
(7-1) Solid black on a full page 236

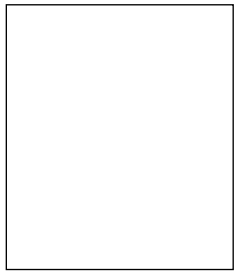
Note! **Read a content of EEPROM chip on the old board and copy it to a new board when exchanging a PU board (PRN PCB).**



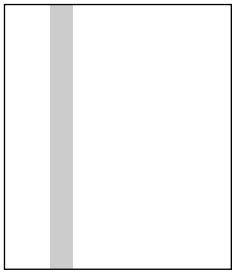
A Light or faded image on whole page



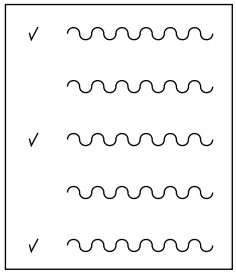
B Dirty Background



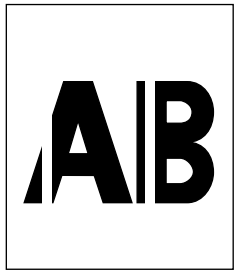
C Blank



D Vertical black belt or line



E Defective image of regular interval



F Vertical white belt or line

Figure 7.2

7.5.3.(1) Color is totally pale (Fig.7.2 **A**)

(1-1)Color is pale

Confirmation Items		Confirmation Tasks	Action at NG
(1-1-1)Toner			
	Remaining amount of the toner	Confirm that "TONER LOW" or "TONER EMPTY" is not shown in the operation panel.	Exchange to a new toner cartridge.
	Tapes on the opening of the toner cartridge	Check that the tapes are removed from the opening of the toner cartridge.	Remove the tapes, closing a lever of the toner cartridge.
(1-1-2)LED Head			
	Lenses of LED head	Confirm that surfaces of the lenses of LED head are not dirty with paper chips or toners.	Clean lenses with a LED head cleaner.
	Installation status of LED head	Confirm that LED head is correctly installed in LED head holder. Check tension springs of the right and left are correctly installed.	Return the installation status to normal status.
(1-1-3)Media for printing			
	Medium type	Confirm that media for printing are not too thick.	Apply a regular paper.
(1-1-4)High Voltage Terminal			
	ID unit terminal	Check that a high voltage terminal of the ID unit is appropriately connected to contact ASSY with eyes.(Refer to Fig. 7-3)	Exchange an ID unit or correct the high voltage terminal. Use FUSE KEEP MODE of the system maintenance menu when using a new ID unit as a test.
(1-1-5)Installation status of the ID unit			
	The down position of the ID unit (Transferring defect)	Confirm that the ID unit can be set to the correct down position without abnormal loads by inserting and removing the ID unit by hand. It is NG that paper passes through the top part easily when inserting it between a drum and belt.	Check U-groove of the side plate and check problems. Exchange the device if it is beyond repair.

7.5.3.(2) Background is dirty (Fig.7.2 **B**)

(2-1)Background is dirty (partly)

Confirmation Items		Confirmation Tasks	Action at NG
(2-1-1)ID unit			
	Drum Exposure	Check whether the drum is left under the condition that the surface is exposed by the light long time.	Exchange the ID unit. Use FUSE KEEP MODE of the system maintenance menu when using a new ID unit as a test.
	Toner leak	Confirm that toner is not leaked from an ID unit or toner cartridge.	Exchange the ID unit or toner cartridge. Use FUSE KEEP MODE of the system maintenance menu when using a new ID unit as a test.
(2-1-2)Fuser Unit			
	Offset toner of the fuser unit	Check that offset toner in the last printing adheres to the fuser unit.	Repeat printing with unnecessary media until the offset toner runs out. Or exchange the fuser unit. Use FUSE KEEP MODE of the system maintenance menu when using a new fuser unit as a test.

(2-2)Background is dirty (totally)

Confirmation Items		Confirmation Tasks	Action at NG
(2-2-1)Media for printing			
	Medium type	Confirm that media for printing are not too thin.	Apply a regular paper.
(2-2-2)High Voltage Terminal			
	ID unit terminal	Check that high voltage terminals of the ID unit are appropriately connected to contact ASSY with eyes. (Refer to Fig. 7-3)	Exchange an ID unit or correct high voltage terminals. Use FUSE KEEP MODE of the system maintenance menu when using a new ID unit as a test.

7.5.3.(3) Blank Print (Fig.7.2 **C**)

(3-1)Blank on the whole page

Confirmation Items		Confirmation Tasks	Action at NG
(3-1-1)Toner status			
	Remaining amount of the toner	Confirm that there is enough toner in a toner cartridge.	Exchange the toner cartridge.
(3-1-2)Exposure status			
	LED head	Confirm whether LED head faces with a drum in a appropriate position when a cover is closed or whether there is no obstacle for an emission face.	Correct the set condition of LED head.
	Connection status of LED head	Check LED head is correctly connected.	Exchange LED head.
	Drum Shaft	Confirm that the drum shaft is correctly connected to side plates of the right and left.	Exchange the ID unit. Use FUSE KEEP MODE of the system maintenance menu when using a new ID unit as a test.
(3-1-3)High voltage terminal			
	ID unit terminal	Check that high voltage terminals of the ID unit are appropriately connected to contact ASSY with eyes. (Refer to Fig. 7-3)	Exchange an ID unit, high voltage board or correct high voltage terminals. Use FUSE KEEP MODE of the system maintenance menu when using a new ID unit as a test.

7.5.3.(4) Vertical lines are printed

(4-1)Thin vertical lines (with color) (See Fig.7.2 **D**)

Confirmation Items		Confirmation Tasks	Action at NG
(4-1-1)ID unit status			
	ID unit filming	Check whether to print without a toner.	Exchange to a new toner cartridge. If it still doesn't work, exchange an ID unit. Use FUSE KEEP MODE of the system maintenance menu when using a new ID unit as a test.
(4-1-2)LED head type			
	LED head	Check product No. of the label stuck on LED head. Vertical lines appear due to adjustment failure that adjustment data of light intensity from another head is used for adjustment when EEPROM is not installed. 421431(EEPROM is installed) 426319(EEPROM is not installed)	Exchange to a head with EEPROM.
(4-1-3)CU Board			
	CU Board	When 3.3V fuse of the LED head on the CU board is blown out, EEPROM in the head is not read out. Then, vertical lines appear due to an adjustment failure of light intensity. Fuse SPY-PCB:F501 SPA-PCB(Rev.6):F2	Exchange the CU board.

(4-2)Thin vertical lines (without color) (See Fig.7.2 **F**)

Confirmation Items		Confirmation Tasks	Action at NG
(4-2-1)LED head status			
	LED head	Confirm that obstacles do not adhere to an emission face of Selfoc lenses of LED head.	Remove obstacles.
(4-2-2)Paper path condition			
	Path route	Confirm that there is no burr to scratch toner which has not been fixed.	Remove the burr.

7.5.3.(5) Cyclic Print Trouble (Refer to Fig.7.2 **E**)

(5-1)Vertical cyclic print trouble

Confirmation Items		Confirmation Tasks	Action at NG
(5-1-1)Cycle			
	Image Drum	Check whether the cycle is 94.25mm.	Exchange the ID unit.
	Developing roller	Check whether the cycle is 42.16mm.	Exchange the ID unit.
	Toner supply roller	Check whether the cycle is 62.01mm.	Exchange the ID unit.
	Charging roller	Check whether the period is 37.7mm.	Exchange the ID unit.
	Upper roller of the fuser unit	Check whether the period is 85.45mm.	Exchange the fuser unit.
	Lower roller of the fuser unit	Check whether the period is 87.96mm.	Exchange the fuser unit.
	Transfer roller (Black)	Check whether the period is 50.27mm.	Exchange the belt unit.
	Transfer roller (Color)	Check whether the period is 43.98mm.	Exchange the belt unit.
			Use FUSE KEEP MODE of the system maintenance menu when using new consumables as a test.

7.5.3.(6) Color drift is wide.

(6-1)"IN ADJUSTING COLOR REGISTRATION" is shown only a short time

Confirmation Items		Confirmation Tasks	Action at NG
(6-1-1)Results of Color Registration Adjustment			
	Time for color registration adjustment (Normally about 50sec.)	Execute REG ADJ UST TEST in the Self-diagnostic Mode and check the result. Errors are not shown in the ON LINE display if they occur.	Exchange a sensor in which NG is found. Clean a sensor. Exchange a shutter. Exchange a PU board (PRN PCB).
(6-1-2)Toner			
	Remaining amount of the toner	Confirm That "TONER LOW" or "TONER EMPTY" is not shown in the operation panel.	Exchange to a new toner cartridge.
(6-1-3)Color registration sensor			
	Dirty sensor	Confirm whether paper chips or toner adheres to a sensor.	Clean it.
(6-1-4)The Shutter of color registration sensor			
	Defects of the shutter operation	Check the shutter operation with the Self-diagnostic Mode.	Exchange the shutter or renovate a machine.

(6-2)Although REG ADJUST TEST of the engine maintenance function is OK, Color drift is seen

Confirmation Items		Confirmation Tasks	Action at NG
(6-2-1)Paper feeding systems			
	Status of the paper feeding systems in a path route	Confirm there is no obstacle in a path route for paper feeding.	Eliminate obstacles.

7.5.3.(7) Solid Black Print

(7-1) Solid black on a full page

Confirmation Items		Confirmation Tasks	Action at NG
(7-1-1)Connection status of high voltage			
	CH terminal	Confirm that a terminal from the device is connected to a high voltage terminal at the left side of the ID unit with visual check.	Exchange the terminal of the device.
	CH terminal	Confirm that a high voltage terminal is normal connection status. Open the left cover to remove a high voltage board and then check if the terminal is appropriately connected.	Reinstall the terminal to be in a normal status.
	ID unit terminal	Confirm that a high voltage terminal of the ID unit is connected to contact ASSAY with visual check.(See Fig. 7-3)	Exchange the ID unit or high voltage board or renovate the high voltage terminal. Use FUSE KEEP MODE of the system maintenance menu when using a new ID unit as a test.
(7-1-2)Output status of the high voltage			
	CH output	When there is a high voltage probe as a maintenance tool, open the left cover to check CH output in printing from solder side of the high voltage board with the high voltage probe.	Exchange a high voltage board.

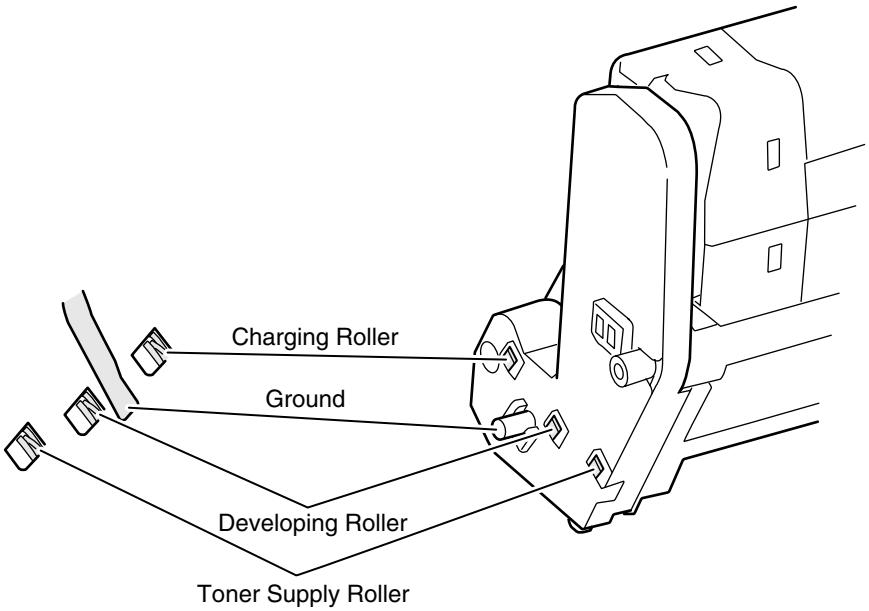


Figure 7.3

7.5.4 Actions Taken after Forced HDD/Flash Initialization

This section describes actions taken after forced HDD or Flash initialization in the event of problems in HDDs or Flash.

1) Actions after Forced HDD Initialization
   Forced HDD initialization erases the following data. There are no data recovery methods.
   - Internal not-yet-printed data
   - JobAccount log data (when JobAccount has been activated)

2) Actions after Forced Flash Initialization
   Forced Flash initialization erases the following data, causing network inoperability.
   - NIC firmware
   - Mac addresses
   - Web page data
   - OEM-oriented demonstration page data (in printers to OEM purchasers)

Using maintenance utility software, Flash must be programmed with the above NIC-firmware, Mac addresses and Web page data.

Note! Do not implement it normally.

7.5.5 Network Troubleshooting

(1)Cannot print from Utility.

Confirmation Items		Confirmation Tasks	Action at NG
(1) LINK Lamp Confirmation			
	Confirm that LINK lamp (Green) light up.	Confirm at printer is connected to HUB. (Confirm that a Network cable is appropriately connected.)	Reconnect the Network cable correctly
		Confirm that a straight cable is used.	Exchange to a straight cable
		Insert a Network cable to a different HUB port.	Exchange HUB
(2) Confirmation of Network Information			
	Confirm that Network information is correctly printed.	Print Network information by pressing Push-SW of the NIC card.	Rewrite NIC-F/W with the utility
(3) Confirmation of the Network information contents			
	Check an IP address, Subnet mask and Gateway address.	Check an IP address, Subnet mask, Gateway address printed on Network information.	Set an IP address, Subnet mask, and Gateway address correctly
(4) Confirm whether to communicate with Network.			
	Confirm that Ping command is sent to a printer from PC.	Confirm that a response is correctly made by sending Ping command to a printer from PC.	Set an IP address, Subnet mask, Gateway address correctly
(5) Utility Confirmation			
	Check the setting of OKI LPR Utility.	Check setting items of OKI LPR Utility.	specify setting items of OKI LPR Utility.
(6) Confirm with OS Standard Port			
	Confirm the standard LPR port of WINDOWS Standard (NT, 2000, XP).	Confirm that printing is available for the setting of the standard LPR port of WINDOWS (NT, 2000, XP.)	Set the standard LPR port of WINDOWS (NT, 2000, XP)

7.5.6 Displaying Details of Service Call Error Codes (C3200/C3100/C5510)

With the C3200/C3100, whenever service error occurs, each LED-Paper, Consumable, and Alarm-rapidly blinks simultaneously at 120mS intervals. Every time the ONLINE SW and the CANCEL switch are depressed simultaneously for 5 seconds or more in this state, the printer enters error code display mode. In this mode, each error code, a three-digit decimal number, represents 12 bits (4 LEDs x 3 times).

After the error code display mode starts, LED displays the hundred's place of the error code. If the ONLINE SW is depressed once in this state, LED displays the ten's place of the error code. If the ONLINE SW is depressed twice in this state, LED displays the one's place of the error code. Immediately after the ONLINE switch is depressed (200mS), all the LEDs go off so that a user can confirm that the switch was depressed even though the same code such as 111 or 222 continues. If the ONLINE SW is depressed three times, error code display mode ends, and the LED will go back to its rapid blinking state. If it is not depressed for more than 20 seconds, error code display mode ends as well.

One example of LED display pattern at error occurrence is provided below. The LED is laid out in the order of Ready, Paper, Consumable, and Alarm from the far left side, and what each symbol means is given in Table 7-5-6-3.

Value conversion method:

Regard 4 LEDs as bit0, bit1, bit2, bit3 from the right. 4 bit value when Off LED is 1, On LED is 0.

Table 7-5-6-1 Error Code 072 display pattern

After error code display mode starts				Press ONLINE switch first time				Press ONLINE switch second time			
ON	ON	ON	ON	ON	OFF	OFF	OFF	ON	ON	OFF	ON
Hundred's place 0				Ten's place 7				One's place 2			

Table 7-5-6-2 Error Code 186 display pattern

After error code display mode starts				Press ONLINE switch first time				Press ONLINE switch second time			
ON	ON	ON	OFF	OFF	ON	ON	ON	ON	OFF	OFF	ON
Hundred's place 1				Ten's place 8				One's place 6			

Table 7-5-6-3 Definition of symbols

Symbol	Difinition
●	GREEN ON
●	AMBER ON
●	GREEN / AMBER OFF

7.6 Fuse Checking

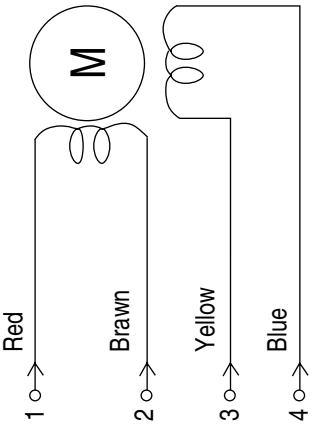
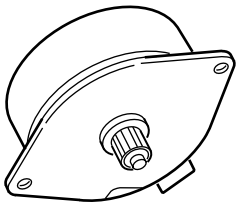
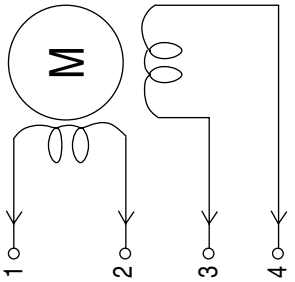
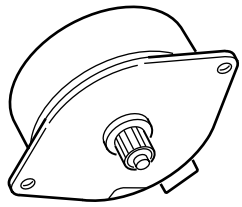
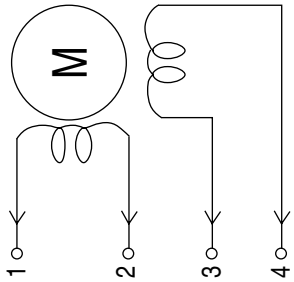
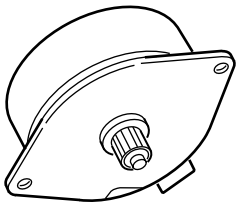
When the following errors occur, that fuse on the high voltage power unit board which is associated with each error is to be checked (see table 7-6).

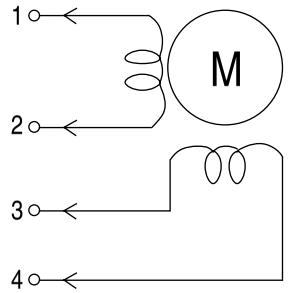
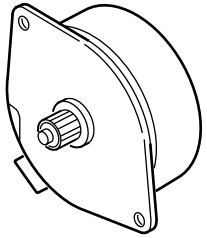
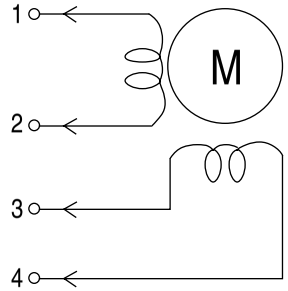
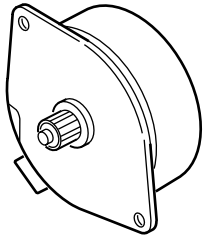
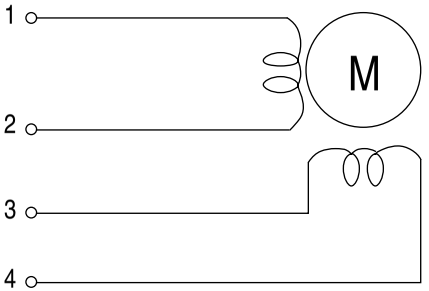
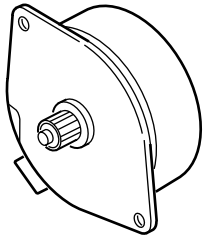
Table 7-6 Fuse Error

Fuse Name		Error Description	Insert Point
PU Board (PRN PCB)	F1	M or C toner sensor error	M-ID and C-ID motor 24V
	F2	K toner sensor error	Hop and K-ID motor 24V
	F3	Cover open error	High voltage, fan, update Ver. identification circuitand Y-ID 24V
	F4	2nd, tray or duplex unit paper jam	2nd tray and duplex 24V
	F5	Paper jam during printing	Belt fuser motor 24V
	F6	No operator panel display	5V sensor system
High Voltage Board	IP102	Cover open error	High voltage 24V

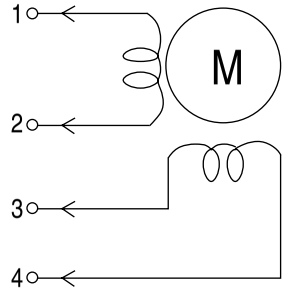
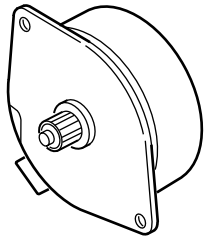
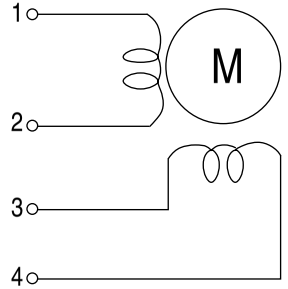
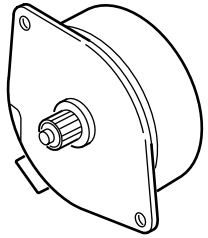
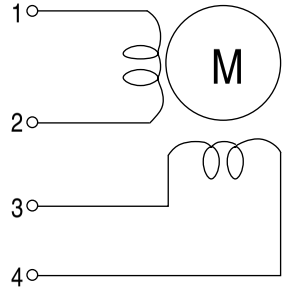
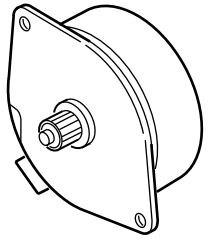
8. CONNECTION DIAGRAM

8.1 Resistance Checks

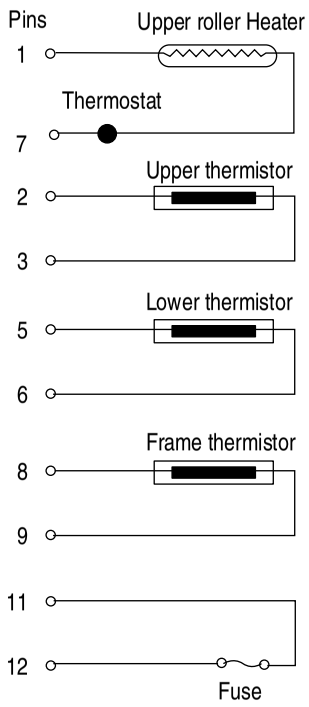
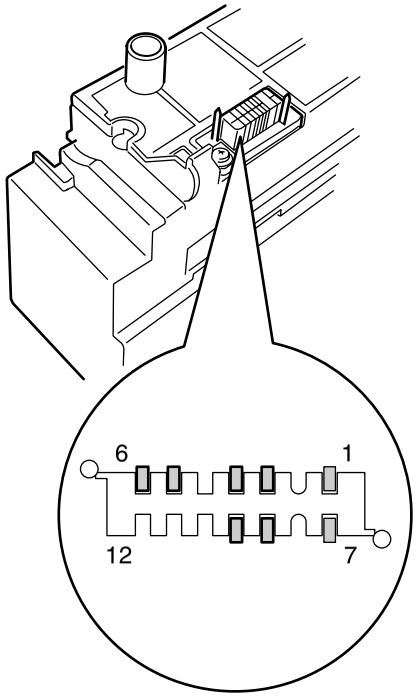
Unit	Circuit Diagram	Illustration	Resistance
Transport Belt Motor			Between pins 1 and 2: 3.5Ω Between pins 3 and 4: 3.5Ω
Main Motor (Y)			Between pins 1 and 2: 3.4Ω Between pins 3 and 4: 3.4Ω or Between pins 1 and 2: 5Ω Between pins 3 and 4: 5Ω
Main Motor (M)			Between pins 1 and 2: 3.4Ω Between pins 3 and 4: 3.4Ω or Between pins 1 and 2: 5Ω Between pins 3 and 4: 5Ω

Unit	Circuit Diagram	Illustration	Resistance
Main Motor (C)			Between pins 1 and 2: 3.4Ω Between pins 3 and 4: 3.4Ω or Between pins 1 and 2: 5Ω Between pins 3 and 4: 5Ω
Main Motor (K)			Between pins 1 and 2: 3.4Ω Between pins 3 and 4: 3.4Ω or Between pins 1 and 2: 5Ω Between pins 3 and 4: 5Ω
Fuser Motor			Between pins 1 and 2: 3.4Ω Between pins 3 and 4: 3.4Ω or Between pins 1 and 2: 5Ω Between pins 3 and 4: 5Ω

Oki Data CONFIDENTIAL

Unit	Circuit Diagram	Illustration	Resistance
Feeder Motor			Between pins 1 and 2: 3.5Ω Between pins 3 and 4: 3.5Ω
Duplex Motor			Between pins 1 and 2: 3.5Ω Between pins 3 and 4: 3.5Ω
2nd tray Feeder Motor			Between pins 1 and 2: 3.5Ω Between pins 3 and 4: 3.5Ω

Oki Data CONFIDENTIAL

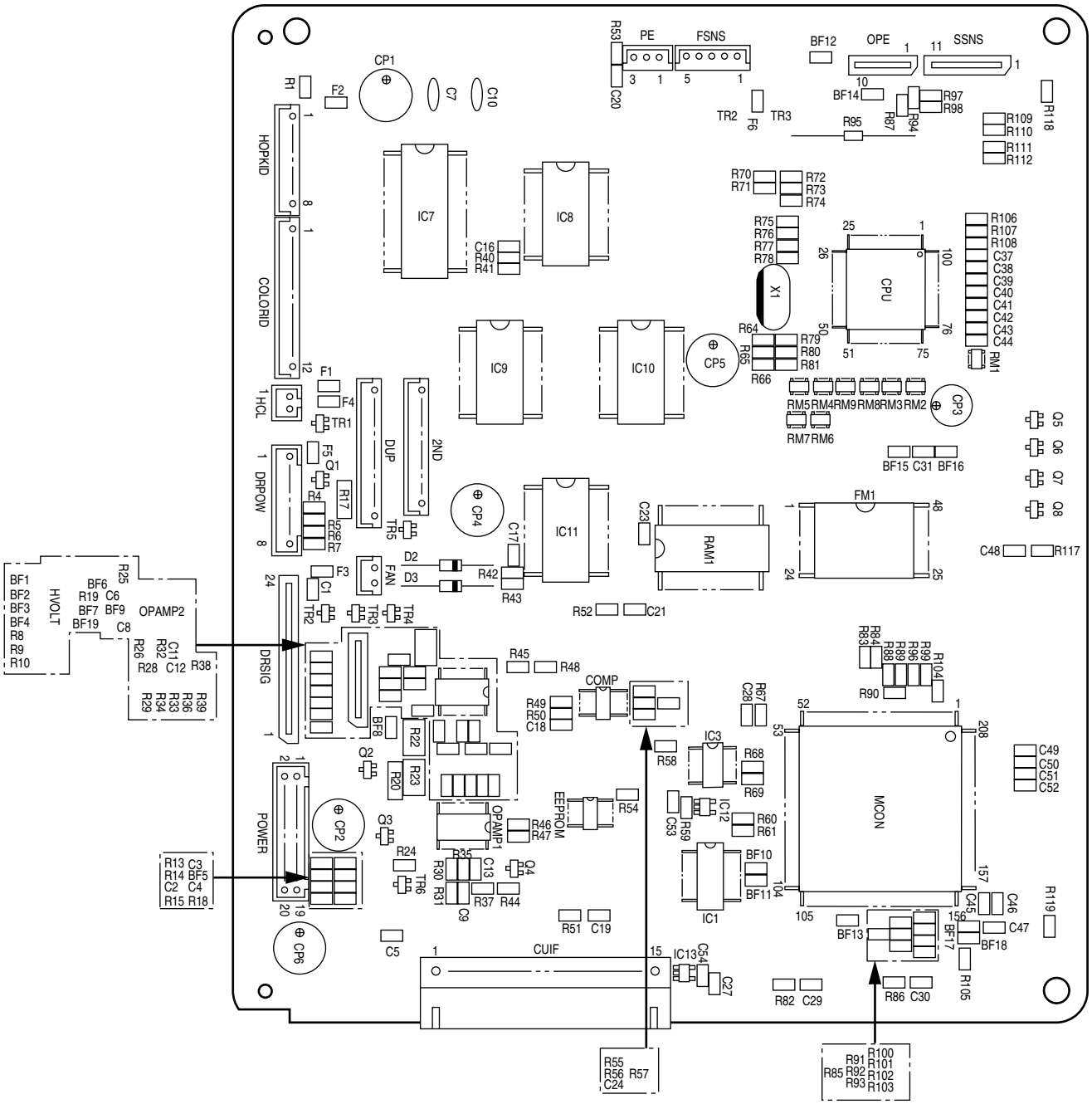
Unit	Circuit Diagram	Illustration	Resistance
Fuser Unit			1. Upper Roller Side Between pins “1” and “7” : About 10Ω Between pins “2” and “3” : About 590k~5338k Ω (0~43˚C) Between pins “5” and “6” : About 190k~981k Ω (0~43˚C) Between pins “8” and “9” : About 23.1k~162k Ω (0~43˚C) Between pins “11” and “12” : Open

Oki Data CONFIDENTIAL

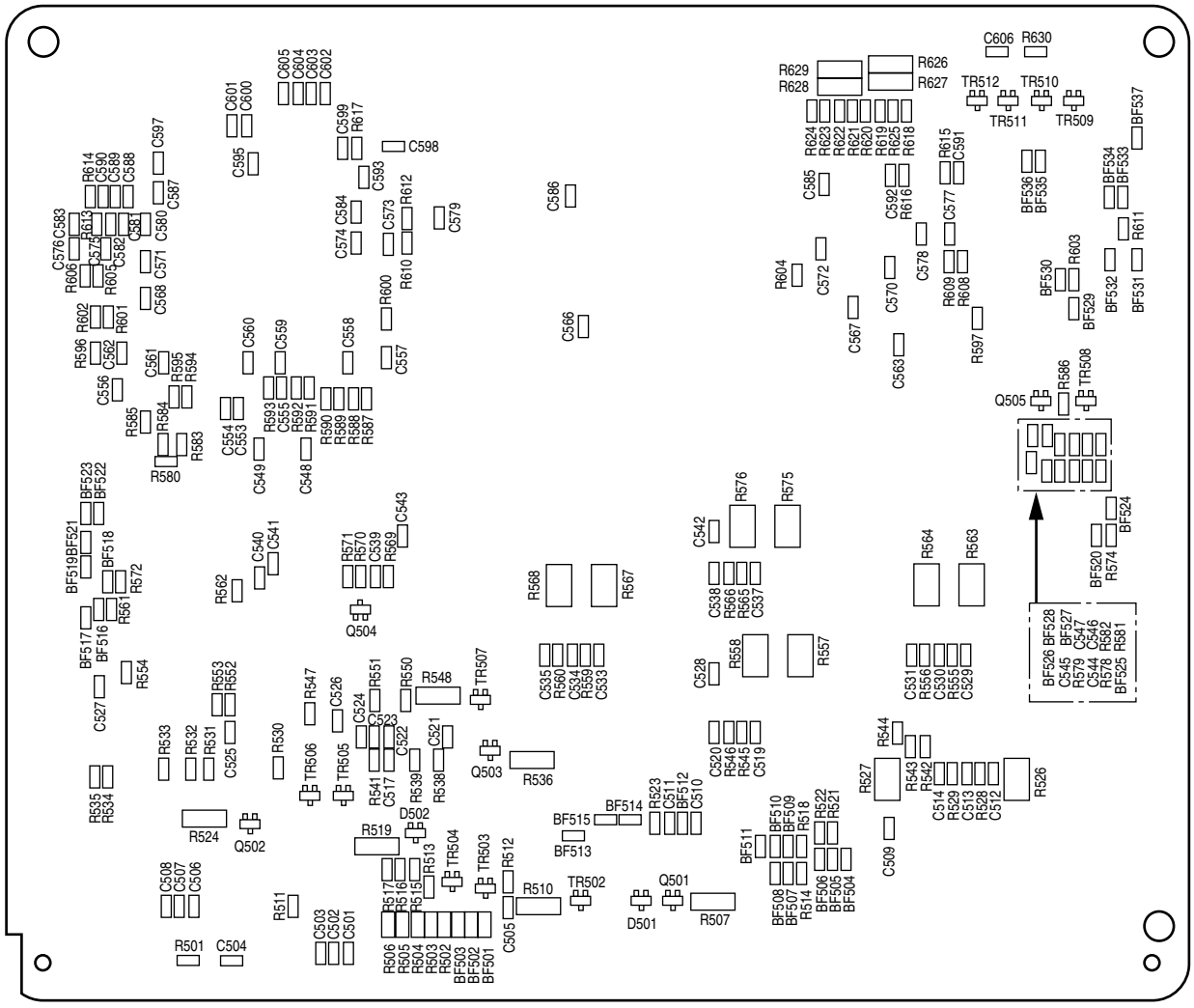
8.2 PCB Parts Layouts

(1) Print Engine Controller PCB (PRN PCB)

Component side

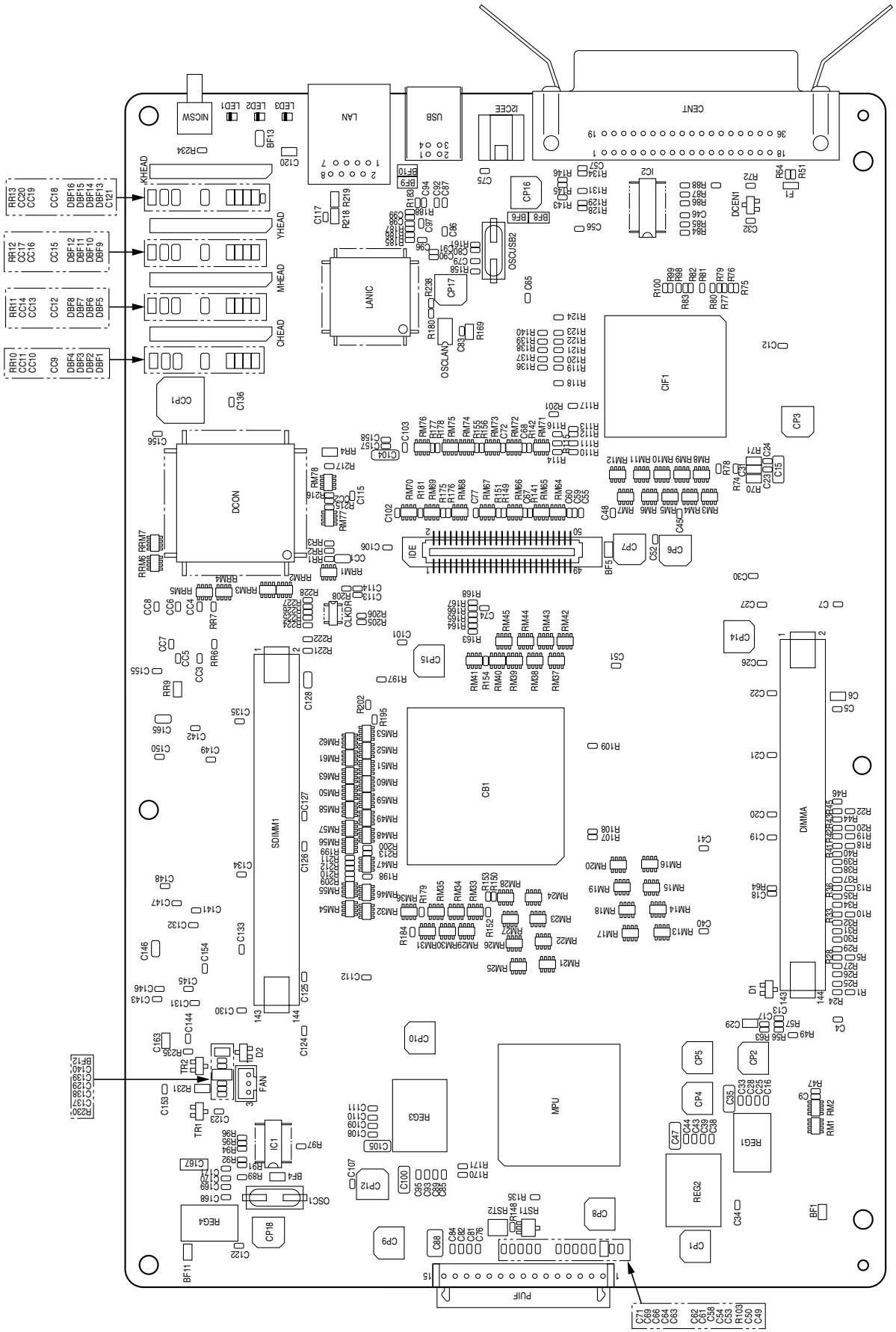


Solder side

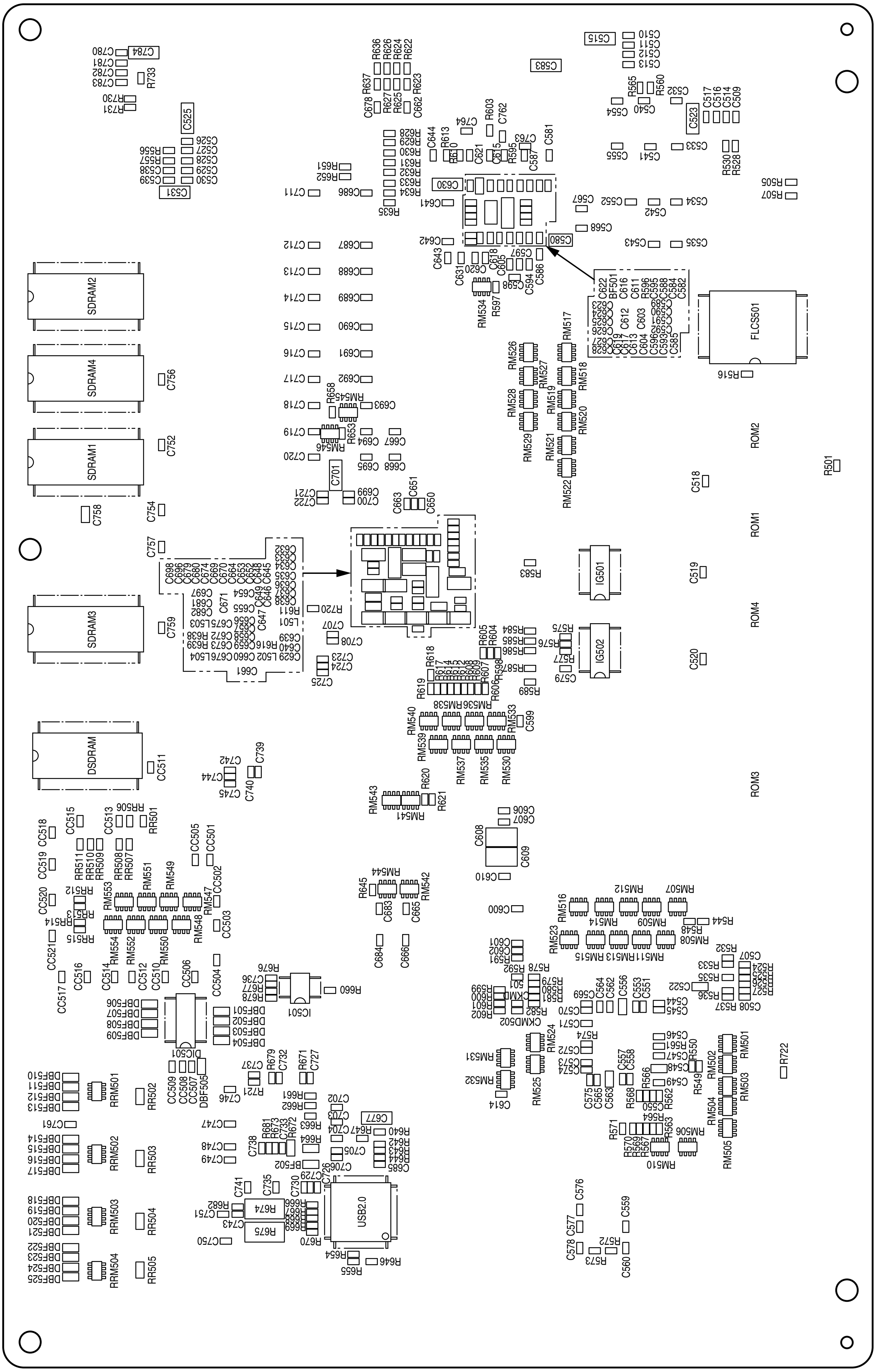

C606 R630
R629 R626
R628 R627
TR512 TR510
TR511 TR509
BF537
C605 C604 C603 C602
C601 C600
C599 R617
C598
C597
C595
C593
C587
C586
C585
C592 R616
R615 C591
BF536 BF535
BF534 BF533
C576 C583
R606 C575
C574 C584
C573 R612
C579
C588 C571 C580
R605 C582 C581
R600 R610
C572
R604
C578
C577
C570
R609 R608
BF530
R603
C567
C566
C563
R597
BF529
BF532
BF531
R611
R602 R601
C596 C562
C561
R595 R594
C560
C559
C558
C557
C556
R585
R584
R583
R580
C554 C553
R593 C555 R592 R591
R590 R589 R588 R587
C549
C548
Q505
R586
TR508
BF523 BF522
BF521 BF519
BF518
R572
R561
C540 C541
R562
R571 R570 C539 R569 C543
Q504
C542
R576
R575
BF524
BF520
R574
R564
R563
BF517
BF516
R554
C527
R553 R552
R568
R567
C538 R566 R665 C537
BF526 BF528
C545 BF527
R579 C547
C544 C546
R578 R582
BF525 R581
R533
R532
R531
C525
R530
R547
C526
C524
R551
R550
R548
TR507
C535 R560 C534 R559 C533
C528
R558
R557
C531 R556 C530 R555 C529
C523
C522
C521
TR506
TR505
Q503
R536
C520 R546 R545 C519
R544
R543
R542
R535
R534
R541 C517
R539
R538
D502
BF514
R523 C511 BF512 C510
BF515
R527
C514 R529 C513 R528 C512
R526
R524
Q502
R519
TR504
TR503
R512
BF513
BF511
BF510 BF509 R518
R522 R521
C509
R517 R516 R515 R513
TR502
Q501
BF508 BF507 R514
BF506 BF505 BF504
C508 C507 C506
R511
C503 C502 C501
R510
D501
R507
R506 R505 R504 R503 R502 BF503 BF502 BF501
C505
R501
C504

(2)-1 Main Controller PCB (SPA-3 PCB) (For C5450/C5400/C5540)

Component side

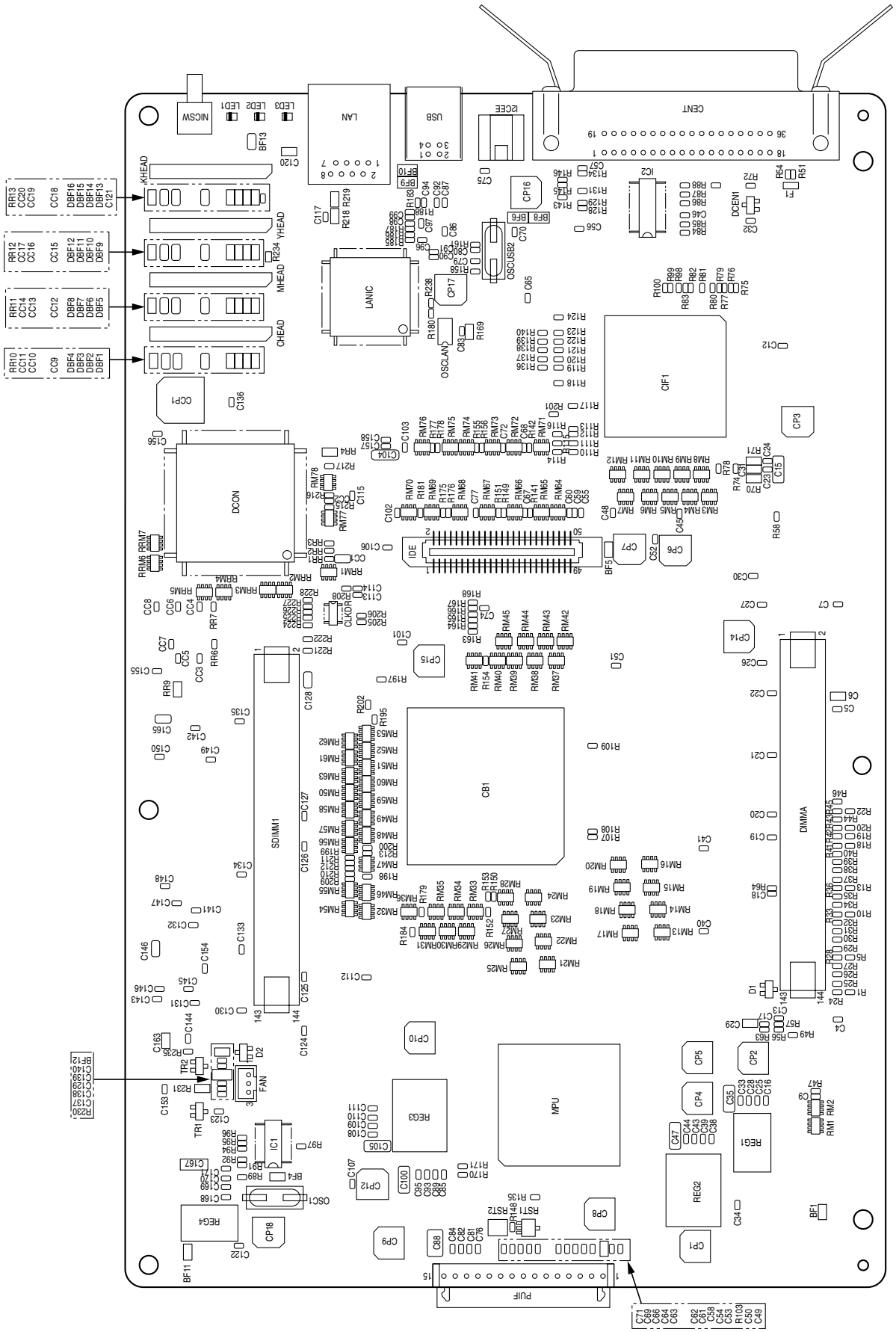


Solder side

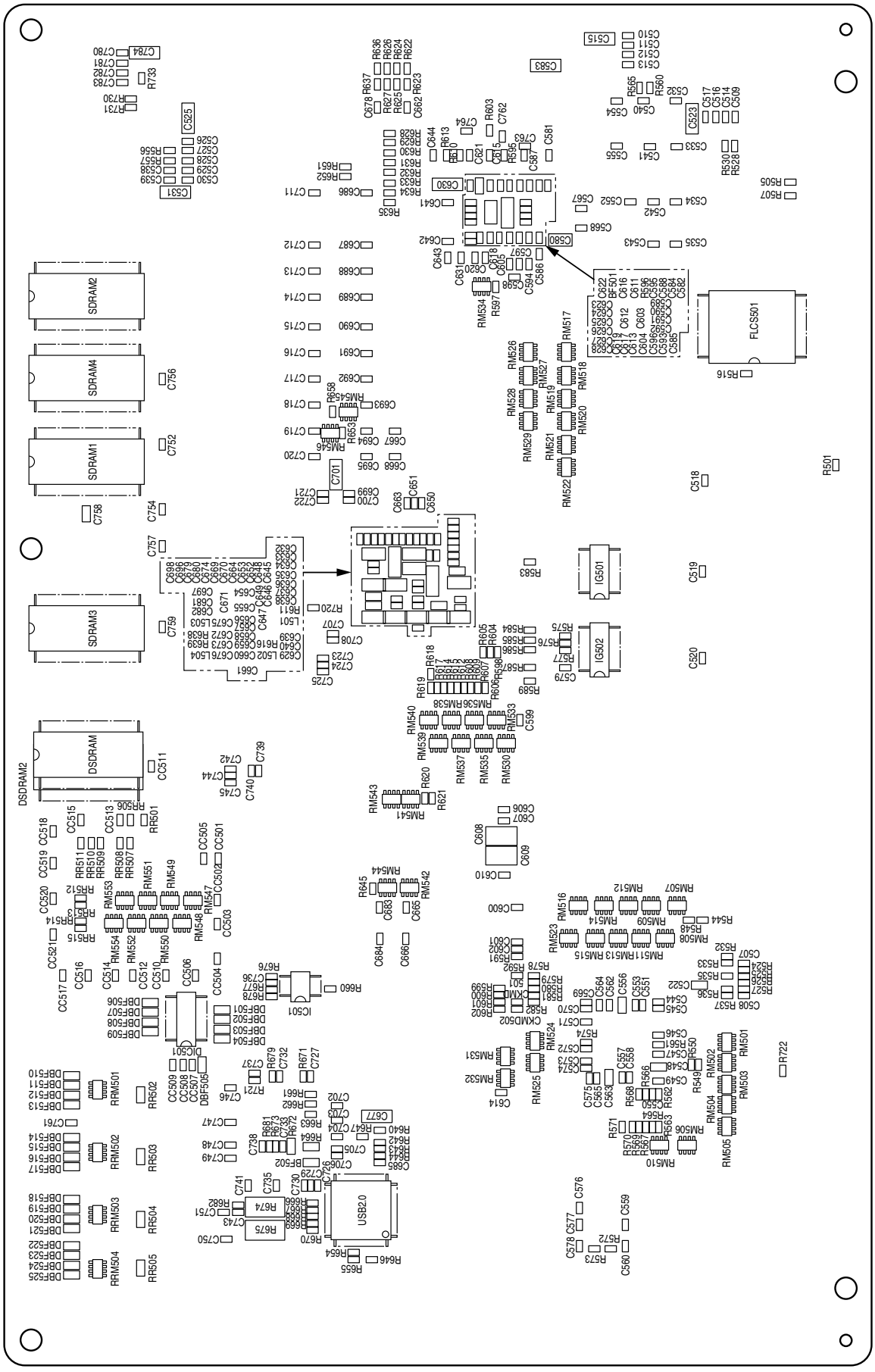

SDRAM2
SDRAM4
SDRAM1
SDRAM3
DSDRAM
FLCS501
ROM2
ROM1
ROM4
ROM3
IG501
IG502
IC501
DIC501
USB2.0

Main Controller PCB (SPA-3 PCB) (For C5450/C5400/C5540) (CN-C5400-022 applied)

Component side

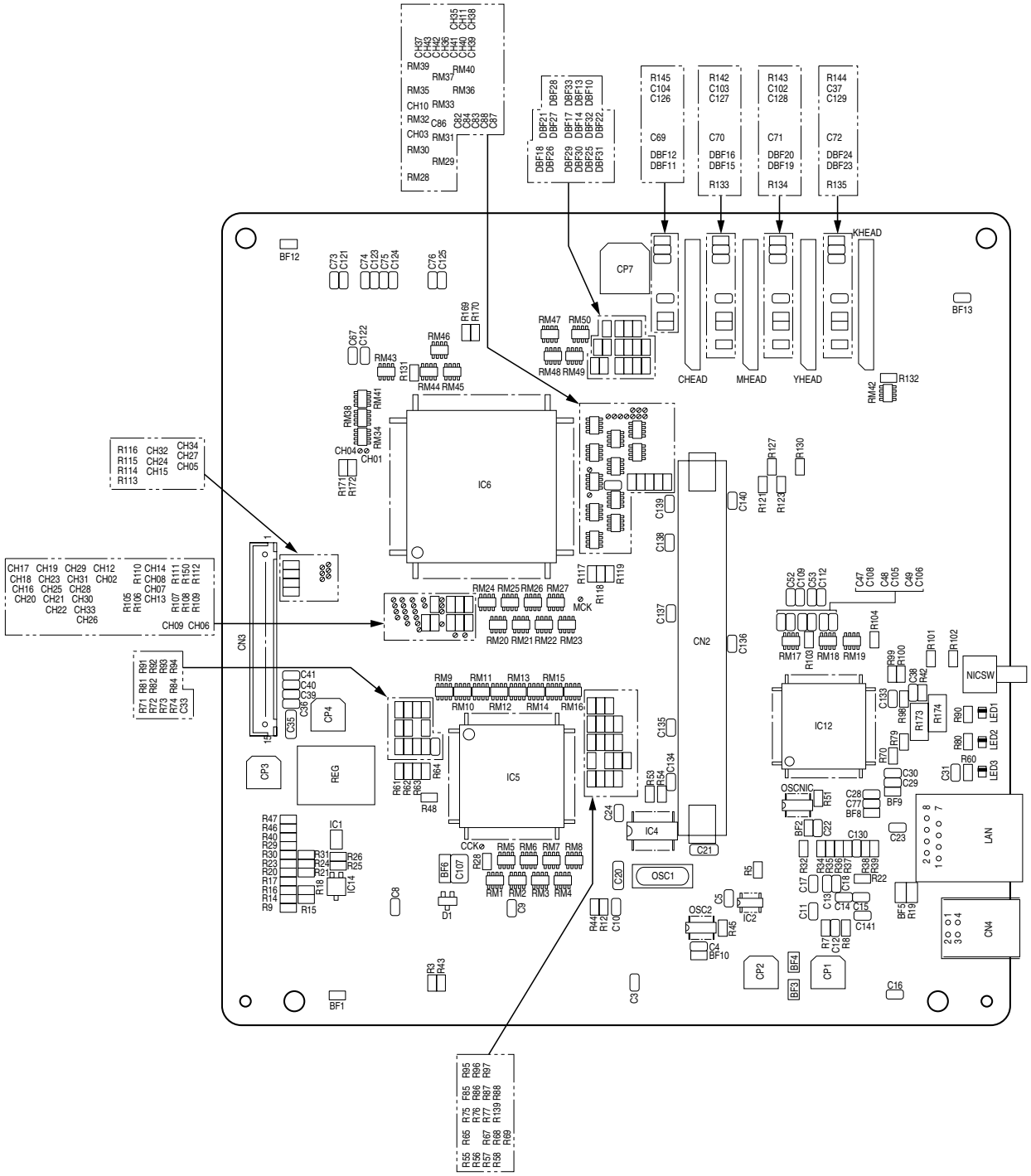


Solder side

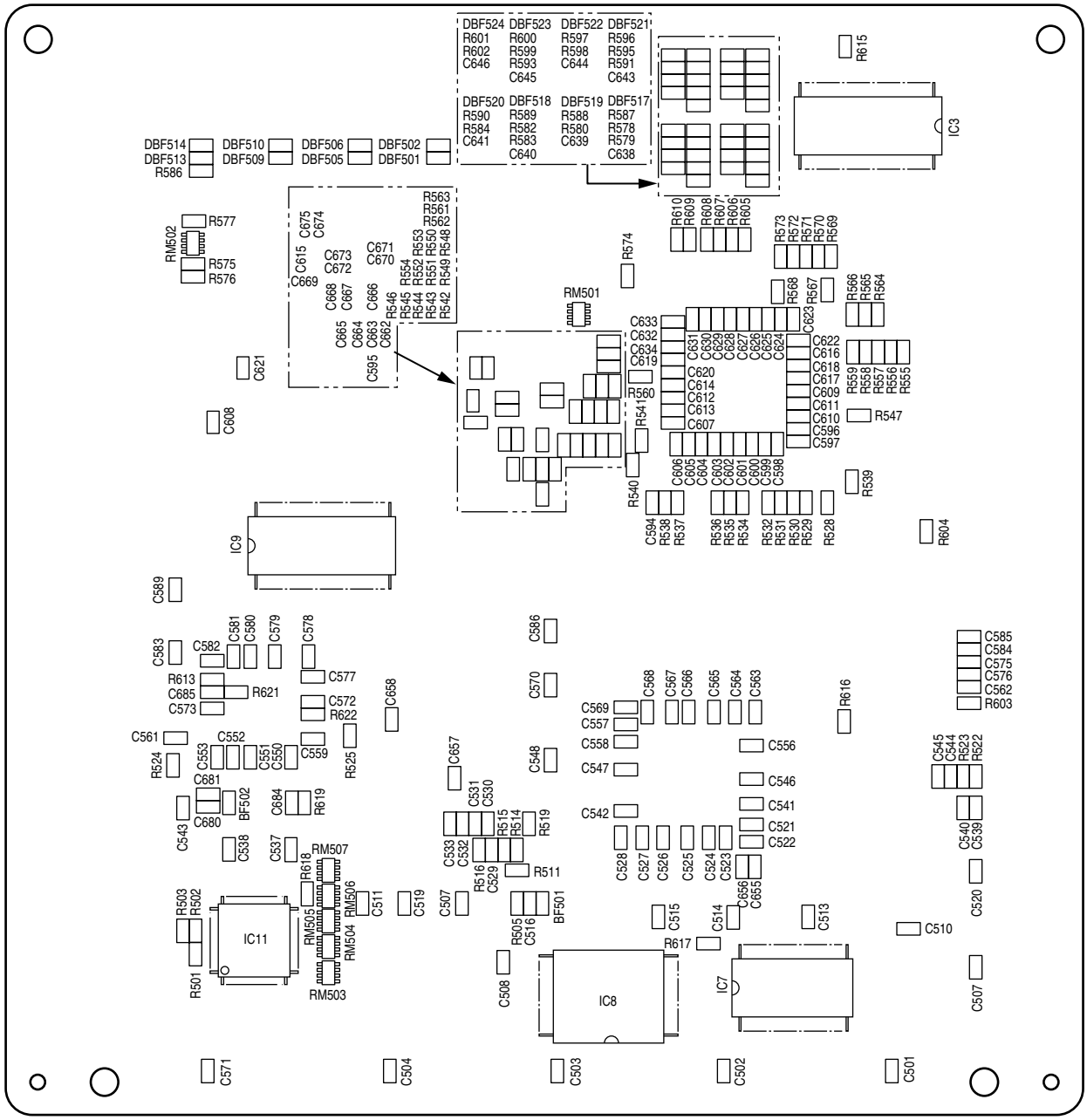

SDRAM2
SDRAM4
SDRAM1
SDRAM3
DSDRAM2
DSDRAM
FLCS501
USB2.0
IG501
IG502
IC501
DIC501
DBF501
DBF502
DBF503
DBF504
DBF505
DBF506
DBF507
DBF508
DBF509
DBF510
DBF511
DBF512
DBF513
DBF514
DBF515
DBF516
DBF517
DBF518
DBF519
DBF520
DBF521
DBF522
DBF523
DBF524
DBF525

(2)-2 Main Controller PCB (ARC-3 PCB) (For C5200), (ARC-4 PCB) (For C5150)

Component side

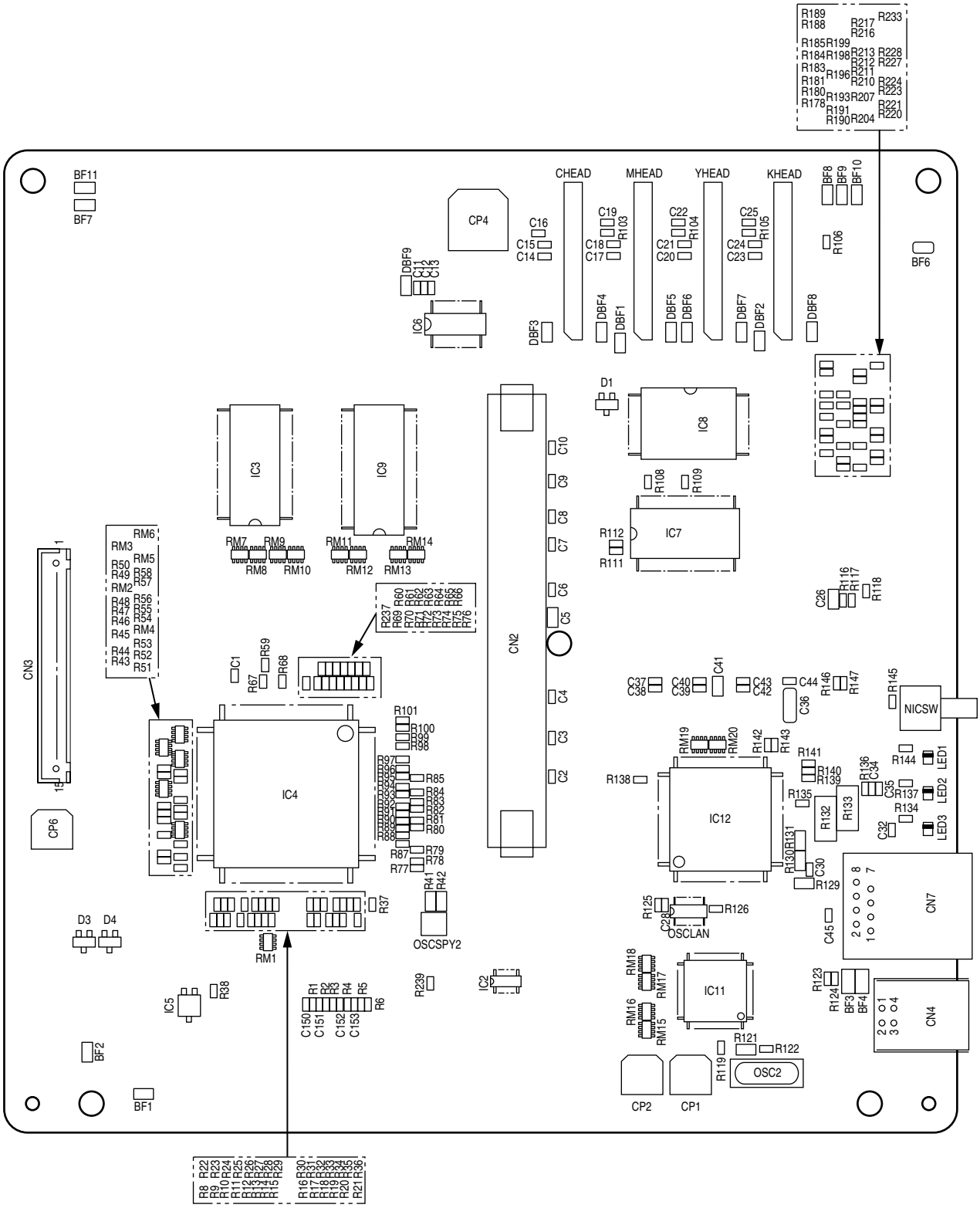


Solder side

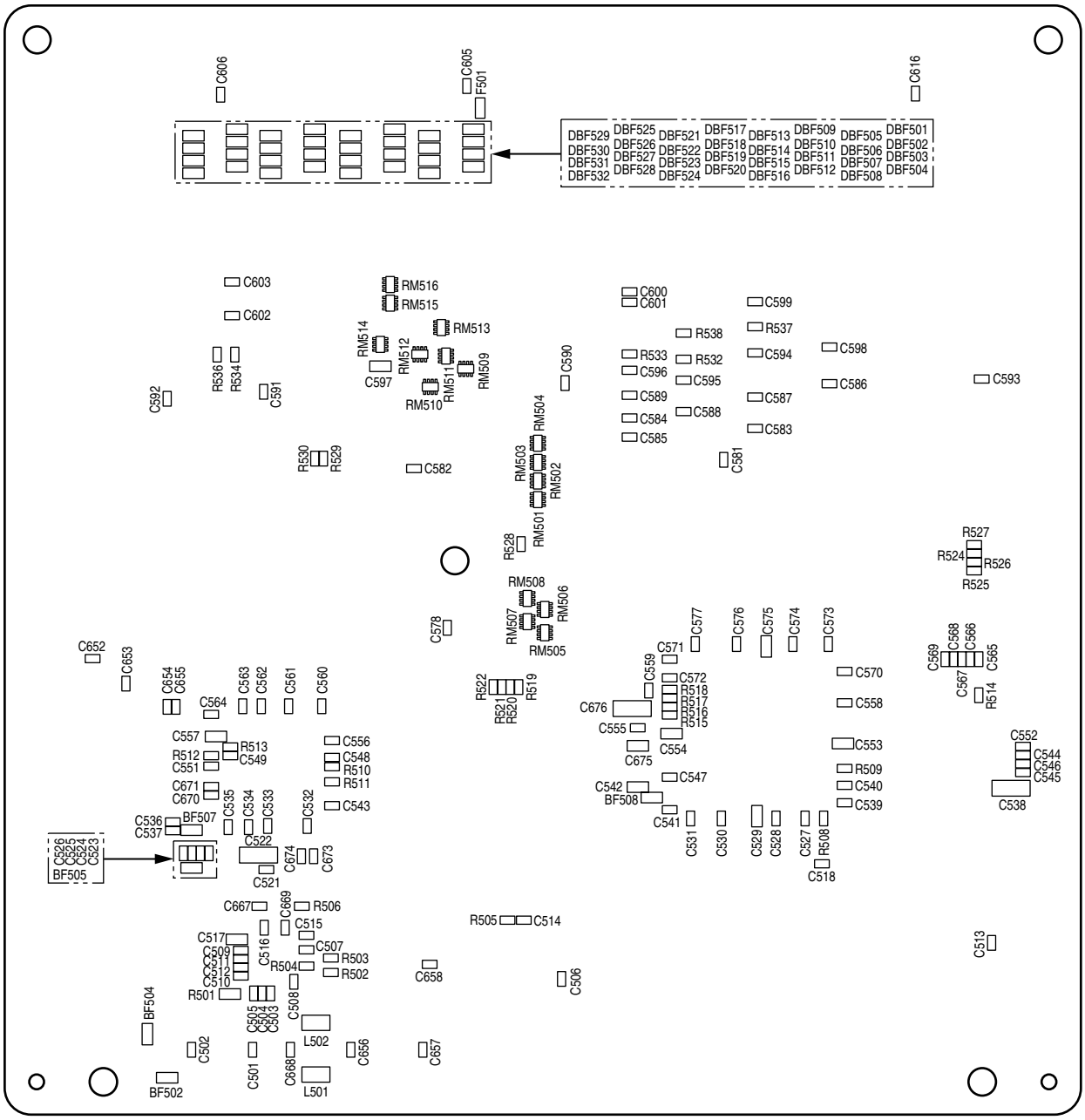

DBF524 DBF523 DBF522 DBF521
R601 R600 R597 R596
R602 R599 R598 R595
C646 R593 C644 R591
C645 C643
DBF520 DBF518 DBF519 DBF517
R590 R589 R588 R587
R584 R582 R580 R578
C641 R583 C639 R579
C640 C638
R615
IC3
DBF514 DBF510 DBF506 DBF502
DBF513 DBF509 DBF505 DBF501
R586
R563 R561 R562
C675 C674
C615 C673 C672 C671 C670
C669 C668 C667 C666
R554 R552 R553 R551 R550 R548
R546 R544 R545 R543 R542 R549
C665 C664 C663 C662
C595
R577
RM502
R575
R576
C621
C608
R574
RM501
R610 R609 R608 R607 R606 R605
R573 R572 R571 R570 R569
R568 R567 C623
R566 R565 R564
C633 C632 C634 C619
C620 C614 C612 C613 C607
R560
R541
C631 C630 C629 C628 C627 C626 C625 C624
C622 C616 C618 C617 C609 C611 C610 C596 C597
R559 R558 R557 R556 R555
R547
C606 C605 C604 C603 C602 C601 C600 C599 C598
R540
R539
C594 R538 R537
R536 R535 R534
R532 R531 R530 R529
R528
R604
IC9
C589
C583 C582 C581 C580 C579 C578
C577
R613 C685 C573 R621
C572 R622
C658
C586
C570
C548
C657
C561 C552
C553 C551 C550 C559
R524 R525
C681
C680 BF502
C684 R619
C543
C538 C537 RM507
R618
C531 C530
R515 R514 R519
C542
C533 C532 R516 R529 R511
C569 C557 C558 C547
C568 C567 C566 C565 C564 C563
C556 C546 C541 C521 C522
R616
C585 C584 C575 C576 C562 R603
C545 C544 R623 R622
C540 C539
C528 C527 C526 C525 C524 C523
C656 C655
C520
C510
R503 R502
R501
IC11
RM505 RM504 RM506
C511 C519
C507
R505 C516 BF501
C515 C514 C513
R617
C508
IC8
IC7
C507
RM503
C571 C504 C503 C502 C501

(2)-3 Main Controller PCB (SPY-3 PCB) (For C5250/C5200), (SPY-6 PCB) (For C3200n)

Component side

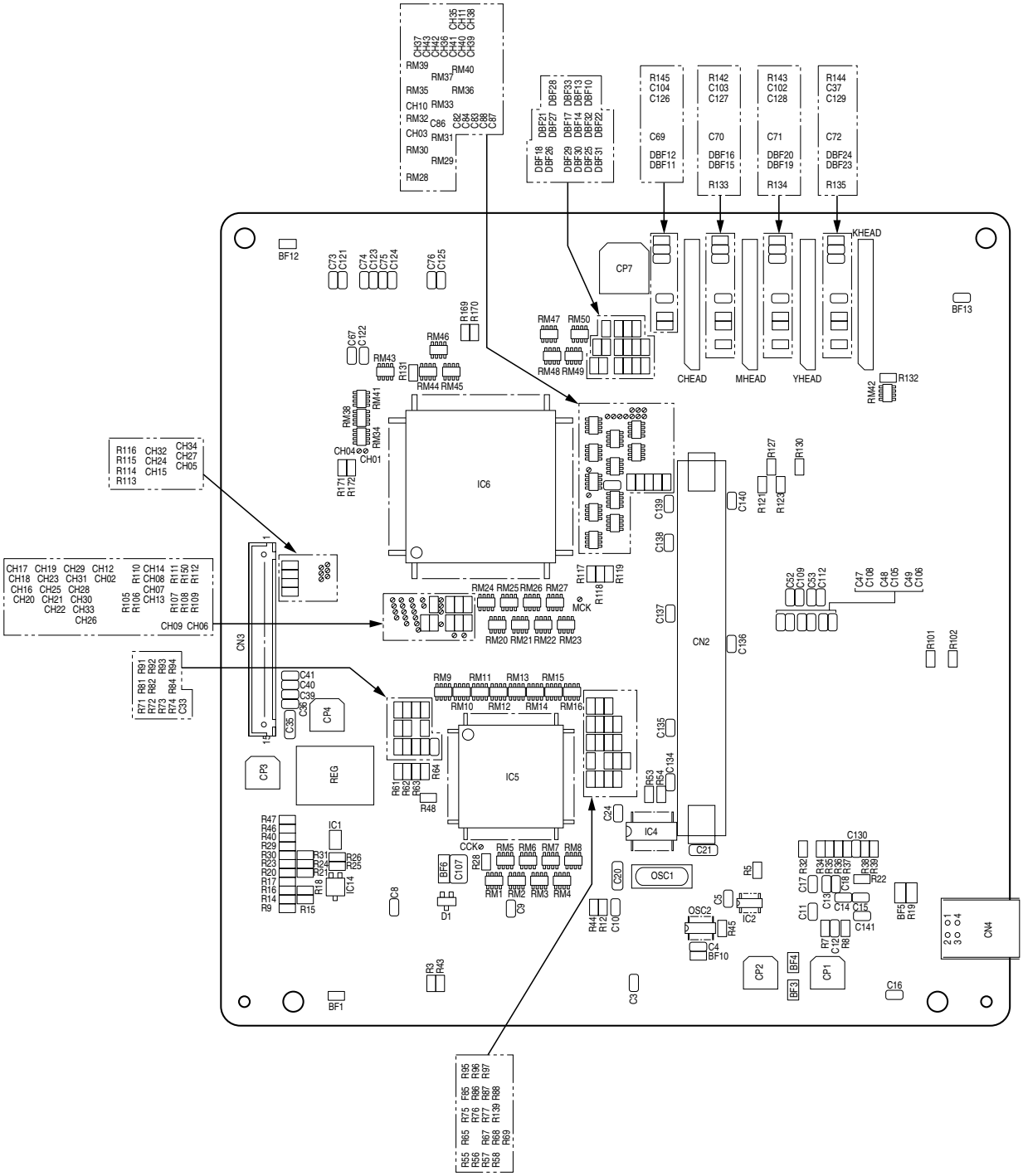


Solder side

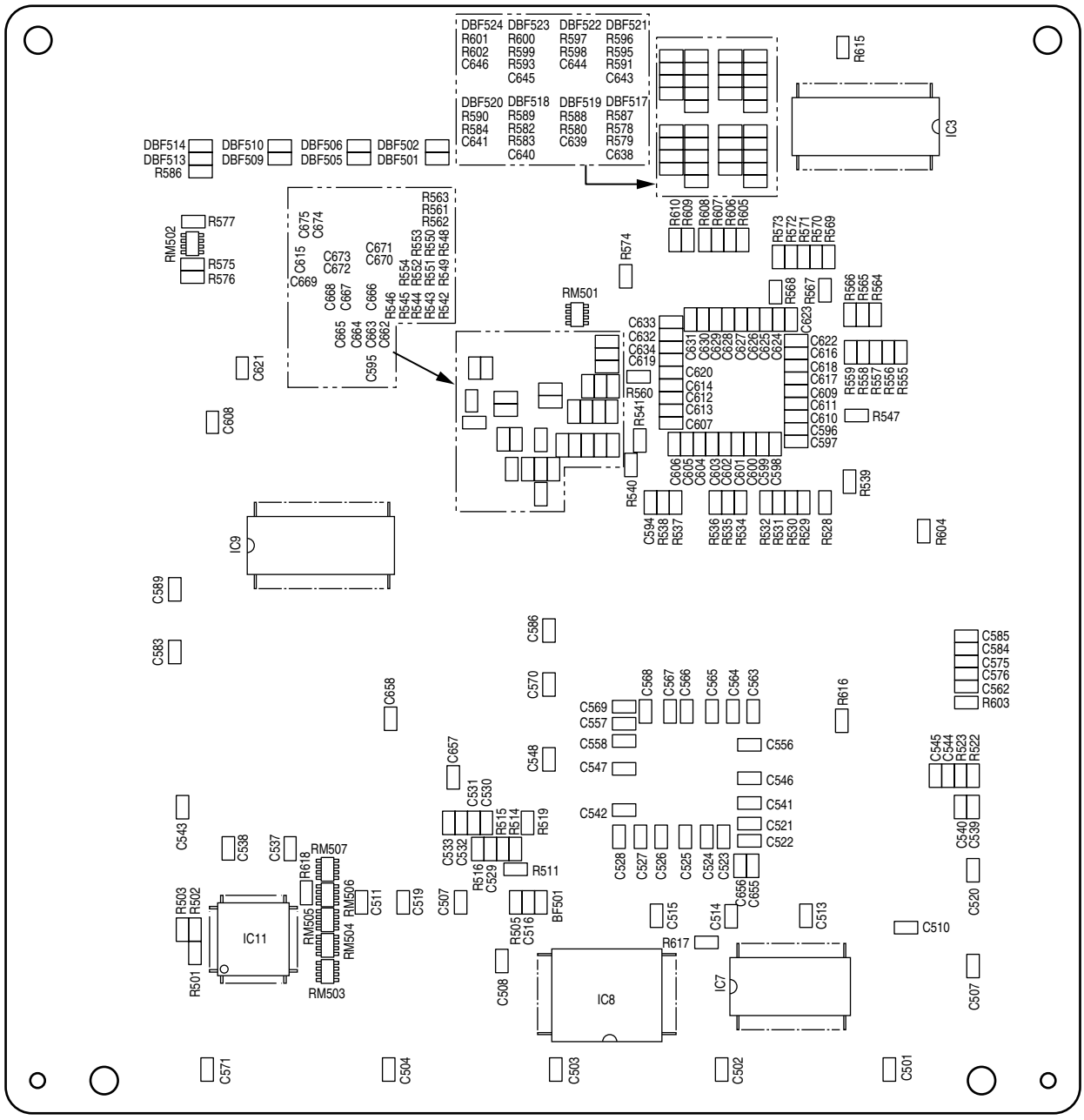

C606
C605
F501
C616
DBF529 DBF525 DBF521 DBF517 DBF513 DBF509 DBF505 DBF501
DBF530 DBF526 DBF522 DBF518 DBF514 DBF510 DBF506 DBF502
DBF531 DBF527 DBF523 DBF519 DBF515 DBF511 DBF507 DBF503
DBF532 DBF528 DBF524 DBF520 DBF516 DBF512 DBF508 DBF504
C603
C602
RM516
RM515
RM514
RM513
RM512
RM511
RM510
RM509
C597
C592
R536
R534
C591
C600
C601
C599
C537
R538
R537
R533
R532
C594
C598
C596
C595
C586
C589
C588
C587
C584
C585
C583
C590
C593
C581
C582
R530
R529
RM504
RM503
RM502
RM501
R528
R527
R524
R526
R525
RM508
RM507
RM506
RM505
C578
C652
C653
C654
C655
C563
C562
C561
C560
C564
C577
C576
C575
C574
C573
C571
C559
C572
R518
R517
R516
R515
C676
C555
C554
C675
C570
C558
C553
R509
C540
C539
C542
BF508
C547
C541
C531
C530
C529
C528
C527
R508
C518
C569
C568
C566
C565
C567
R514
C552
C544
C546
C545
C538
C557
R513
C549
C556
C548
R510
R511
C543
C551
C671
C670
C535
C534
C533
C532
C536
BF507
C522
C526
C525
C524
C523
BF505
C521
C674
C673
C667
C669
R506
C515
R505
C514
C517
C509
C511
C512
C510
C516
C507
R503
R504
R502
C658
C506
C513
R501
BF504
C505
C504
C503
C508
L502
C502
C501
C668
L501
C656
C657
BF502

(2)-4 Main Controller PCB (ARC-2 PCB) (For C3100/C5510)

Component side

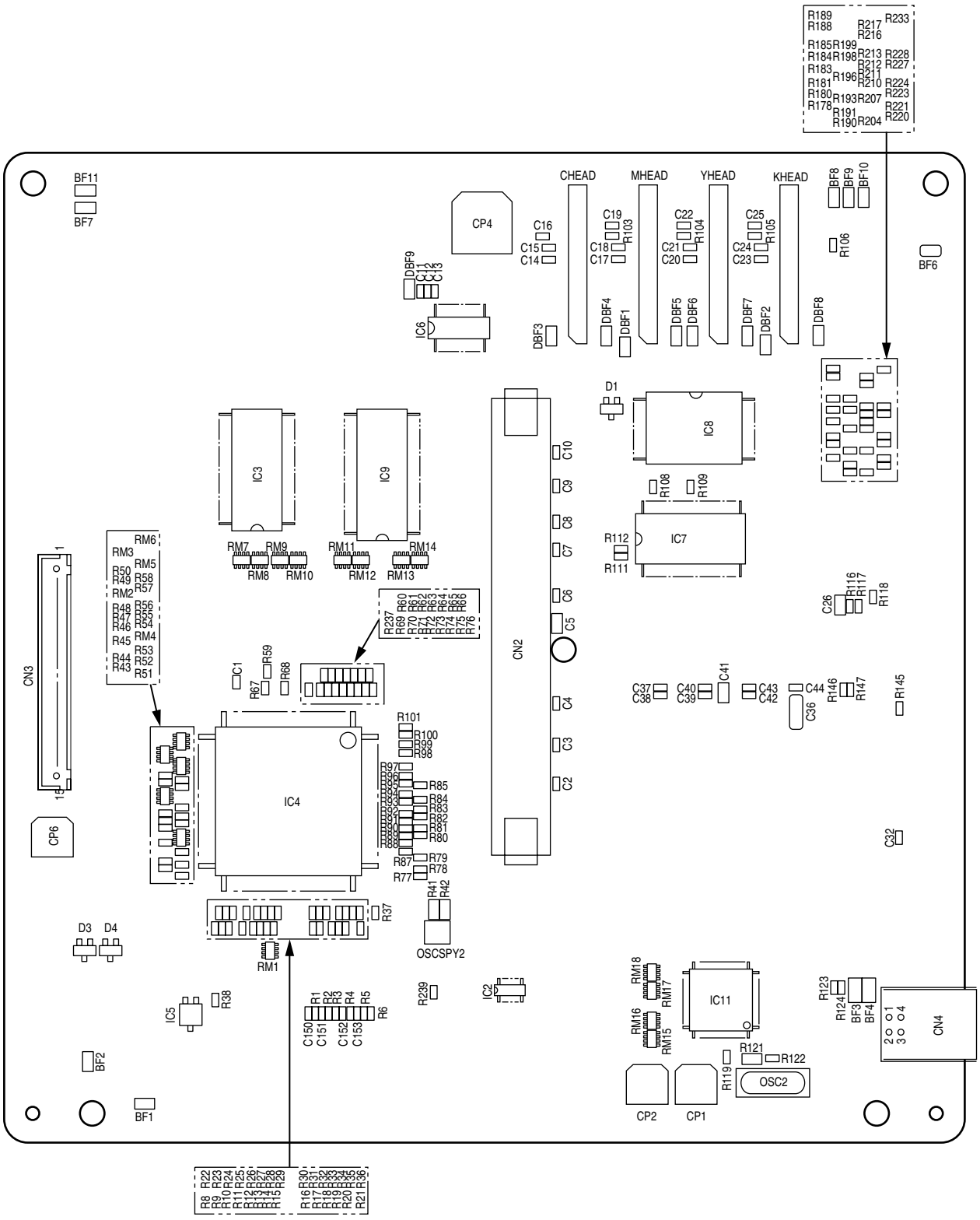


Solder side

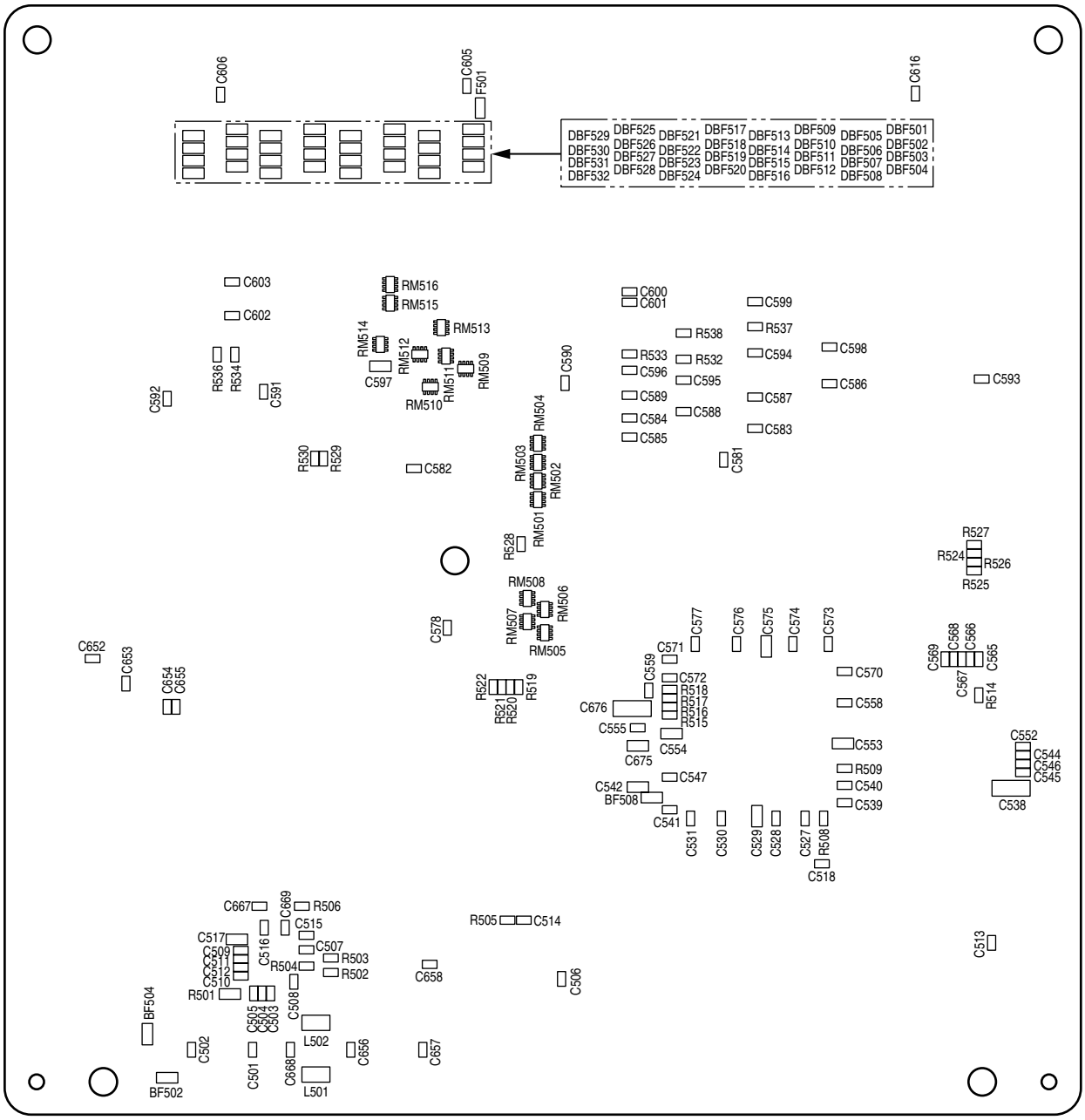

DBF524 DBF523 DBF522 DBF521
R601 R600 R597 R596
R602 R599 R598 R595
C646 R593 C644 R591
C645 C643
DBF520 DBF518 DBF519 DBF517
R590 R589 R588 R587
R584 R582 R580 R578
C641 R583 C639 R579
C640 C638
DBF514 DBF513 R586
DBF510 DBF509
DBF506 DBF505
DBF502 DBF501
R615
IC3
R610 R609 R608 R607 R606 R605
R573 R572 R571 R570 R569
R574
R563 R561 R562
C675 C674
C615 C673 C672 C671 C670
C669 C668 C667 C666
R554 R552 R553 R551 R550 R548
R546 R545 R544 R543 R542 R549
C665 C664 C663 C662
C595
RM502
R577
R575
R576
RM501
R568 R567
R566 R565 R564
C623
C633 C632 C634 C619
C631 C630 C629 C628 C627 C626 C625 C624
C622 C616 C618 C617 C609 C611 C610 C596 C597
C620 C614 C612 C613 C607
R560
R541
R559 R558 R557 R556 R555
R547
C606 C605 C604 C603 C602 C601 C600 C599 C598
R540
R539
C621
C608
C594 R538 R537
R536 R535 R534
R532 R531 R530 R529
R528
R604
IC9
C589
C583
C586
C570
C658
C568 C567 C566 C565 C564 C563
C569 C557 C558 C547
R616
C585 C584 C575 C576 C562 R603
C657
C548
C556
C546
C541
C521
C522
C545 C544 R523 R522
C531 C530
C542
C543
C538
C537
RM507
R618
C533 C532
R515 R514 R519
R516 R529
R511
C528 C527 C526 C525 C524 C523
C656 C655
C540 C539
C520
R503 R502
IC11
RM505
RM506
RM504
C511
C519
C507
R505 C516
BF501
C515
C514
C513
C510
R617
R501
RM503
C508
IC8
IC7
C507
C571
C504
C503
C502
C501

(2)-5 Main Controller PCB (SPY-2 PCB) (For C3100), (SPY-5 PCB) (For C3200)

Component side

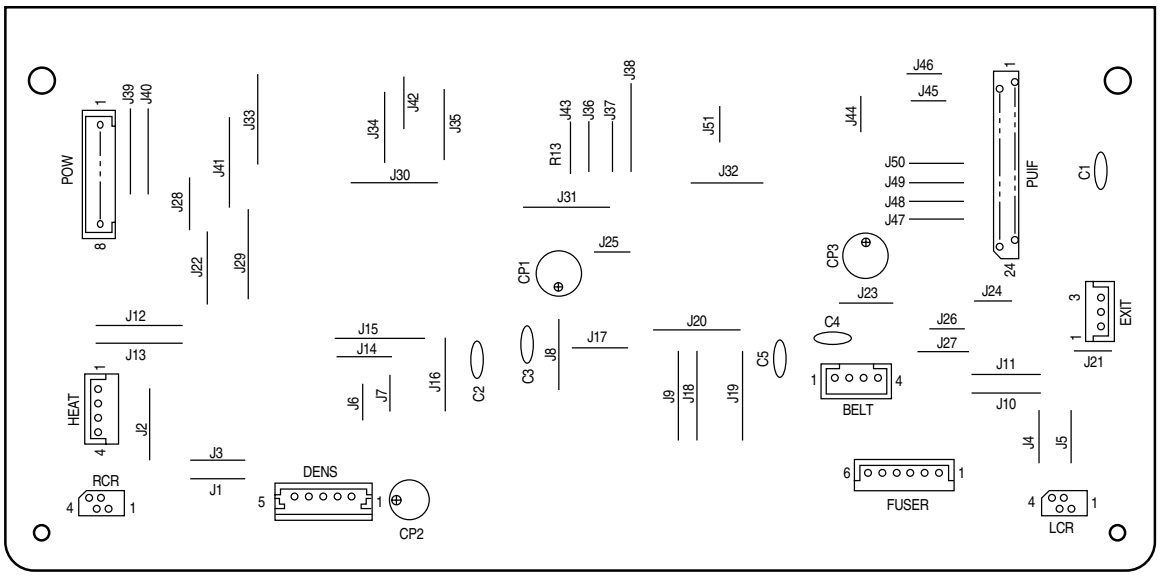


Solder side

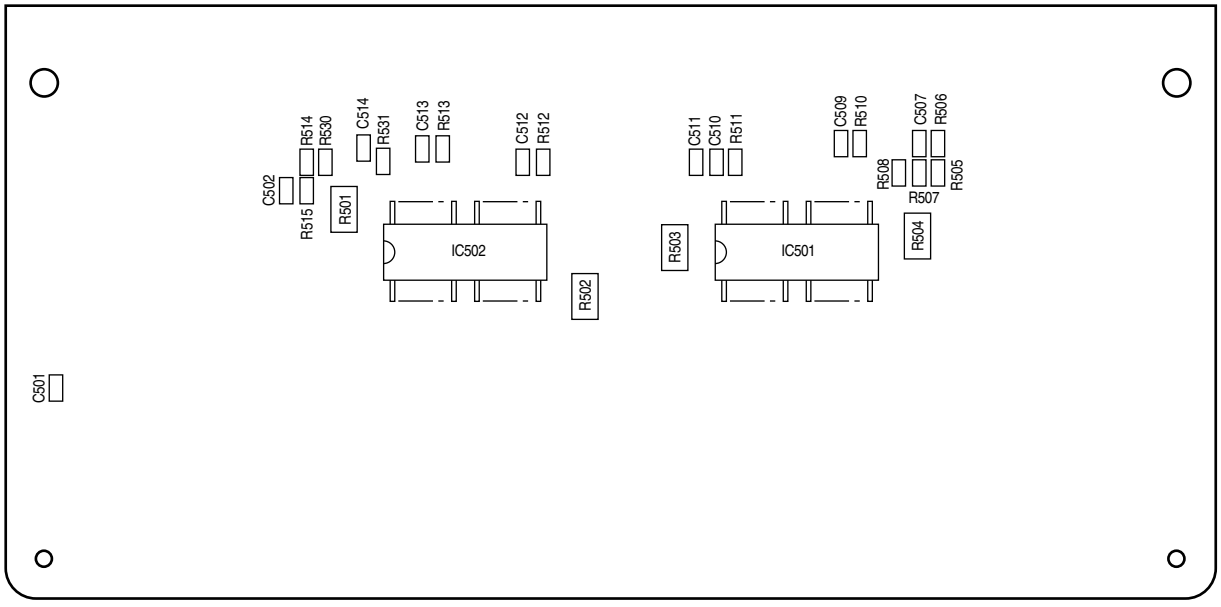

C606
C605
F501
C616
DBF529 DBF525 DBF521 DBF517 DBF513 DBF509 DBF505 DBF501
DBF530 DBF526 DBF522 DBF518 DBF514 DBF510 DBF506 DBF502
DBF531 DBF527 DBF523 DBF519 DBF515 DBF511 DBF507 DBF503
DBF532 DBF528 DBF524 DBF520 DBF516 DBF512 DBF508 DBF504
C603
C602
RM516
RM515
RM514
RM513
RM512
RM511
RM510
RM509
C597
C600
C601
C599
C537
R538
R537
C594
C598
R533
R532
C596
C595
C586
C589
C587
C588
C584
C583
C585
C590
C593
C592
R536
R534
C591
C581
RM504
RM503
RM502
RM501
R530
R529
C582
R528
R527
R524
R526
R525
RM508
RM507
RM506
RM505
C578
C577
C576
C575
C574
C573
C652
C653
C654
C655
C571
C559
C572
R518
R517
R516
R515
C676
C555
C554
C675
C570
C558
C553
R509
C540
C539
C542
BF508
C547
C541
C531
C530
C529
C528
C527
R508
C518
C569
C568
C566
C565
C567
R514
C552
C544
C546
C545
C538
R522
R521
R520
R519
C667
C669
R506
C515
R505
C514
C517
C509
C511
C512
C510
C516
C507
R503
R504
R502
C658
C506
C513
R501
BF504
C505
C504
C503
C508
L502
C502
C501
C668
L501
C656
C657
BF502

(3) Driver PCB (PRM PCB)

Component side

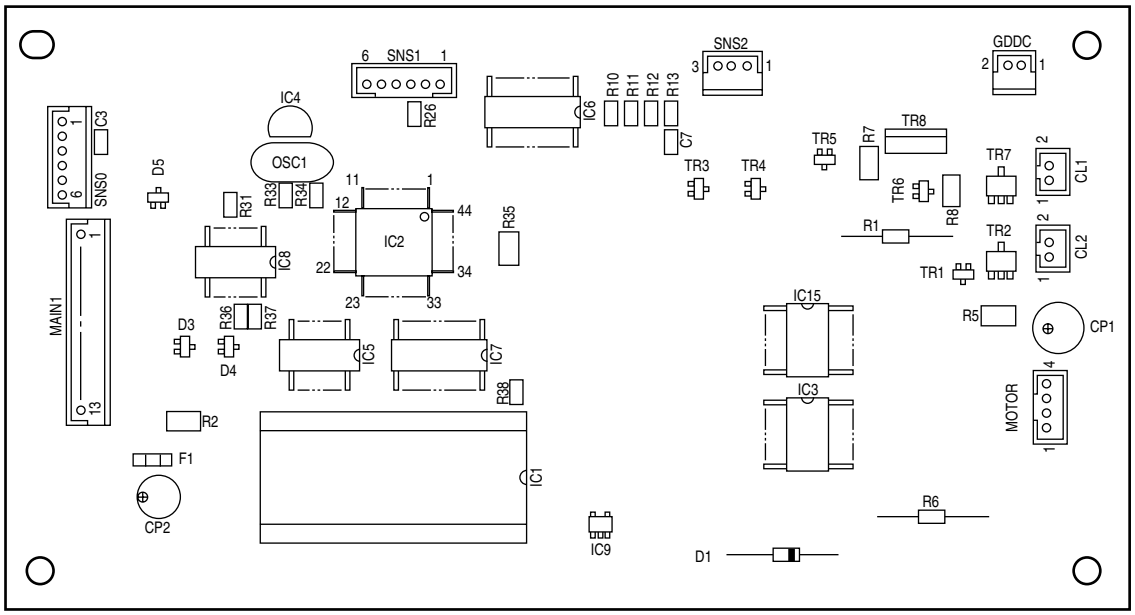


Solder side

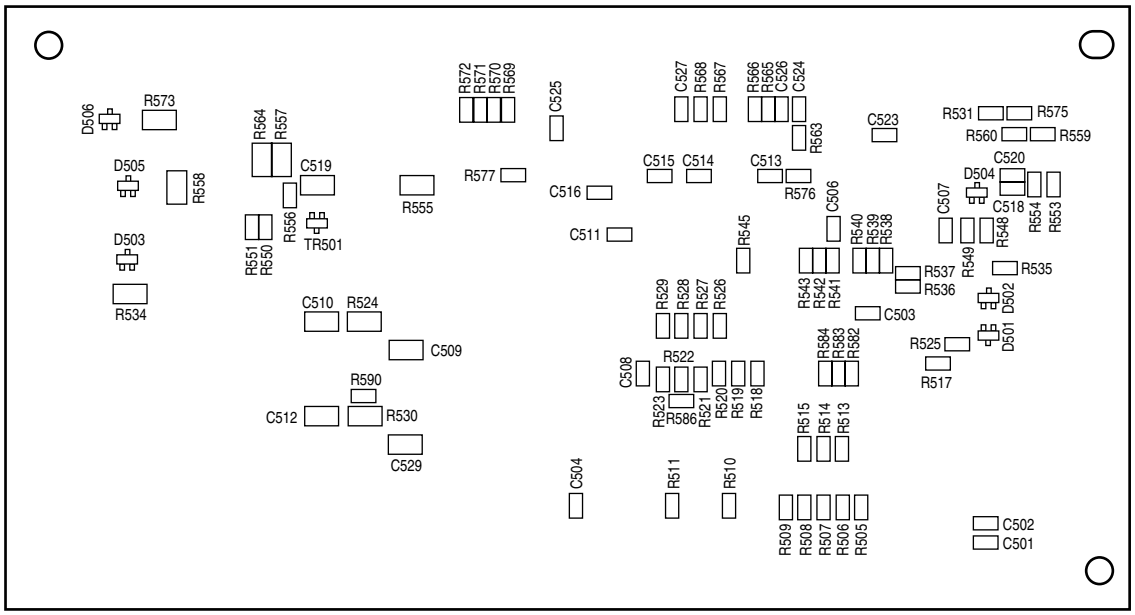


(4) Duplex Controller PCB (V7X PCB)

Component side

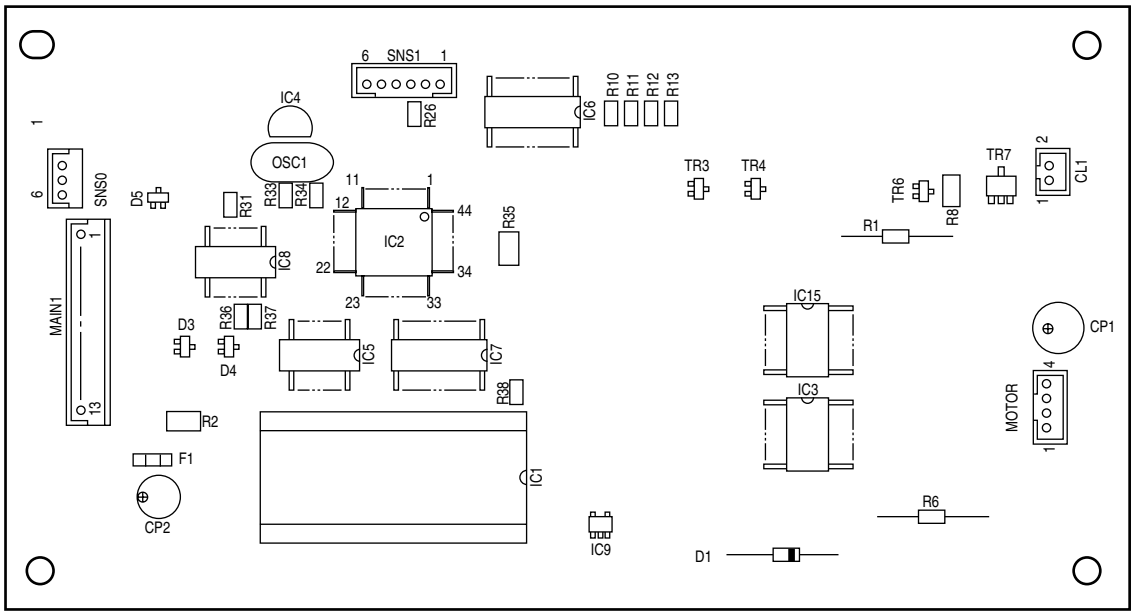


Solder side

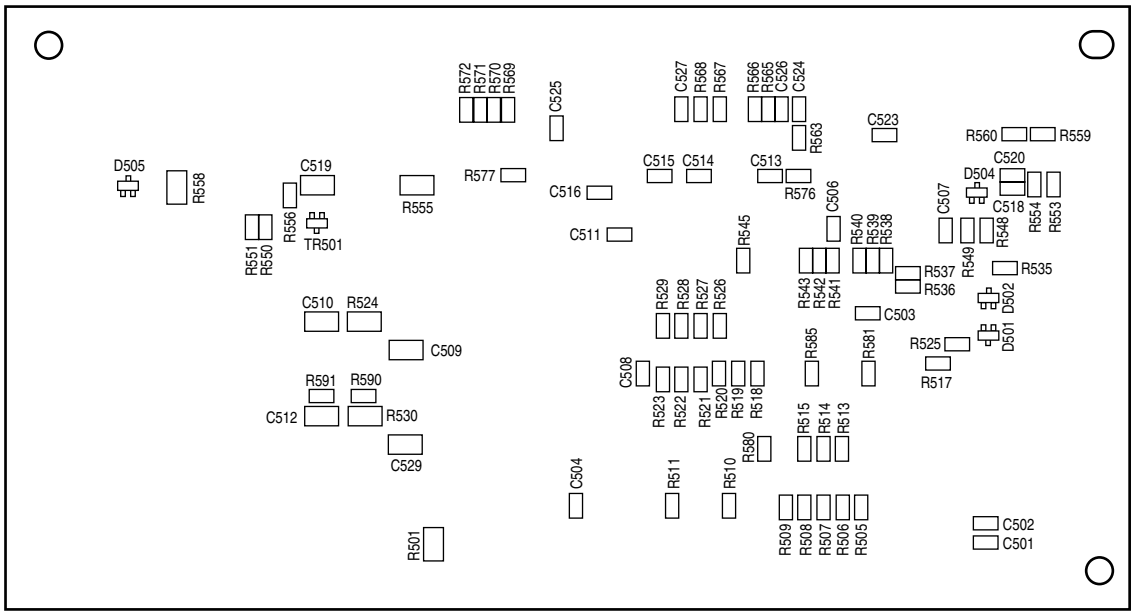


(5) Second Tray Controller PCB (V7X PCB)

Component side

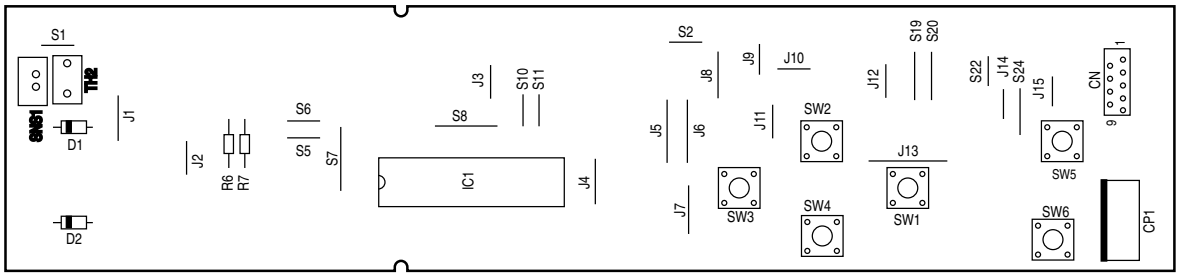


Solder side

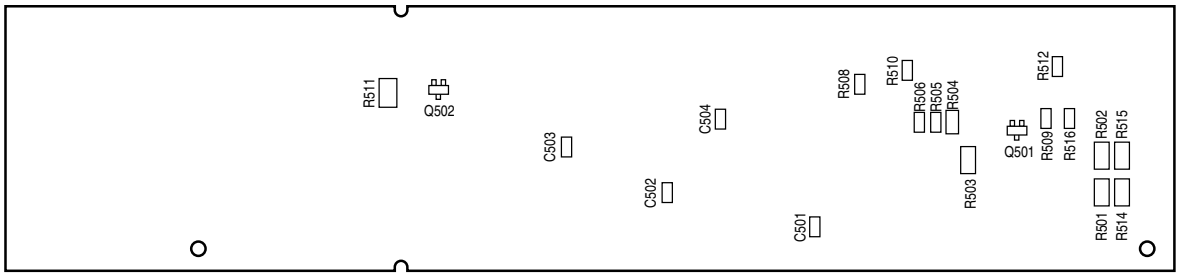


(6)-1 Control Panel PCB (PRP PCB)(C5450/C5400/C5250/C5200/C5150/C3200n)

Component side

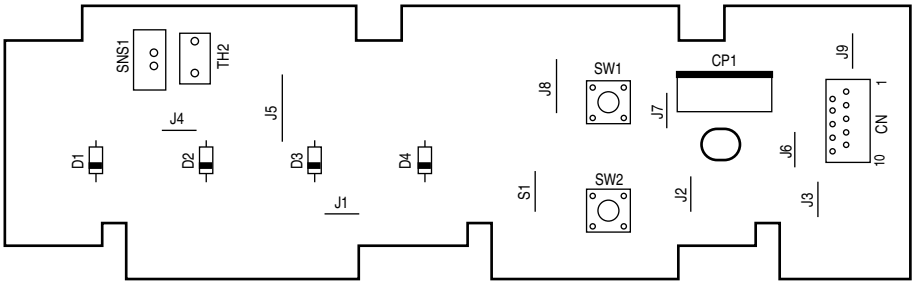


Solder side

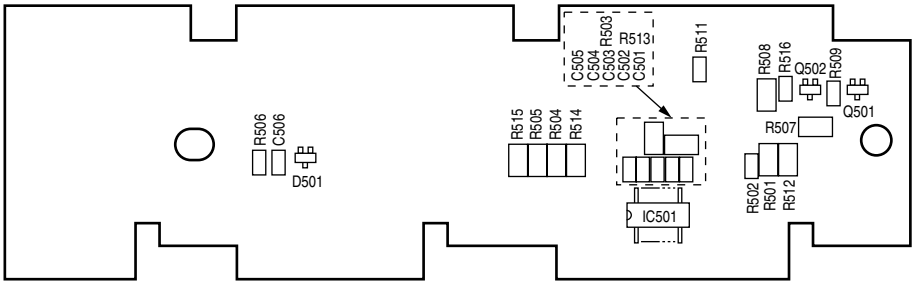


(6)-2 Control Panel PCB (PRO PCB)(C3200/C3100)

Component side



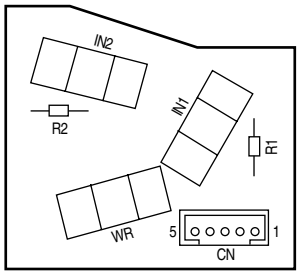
Solder side



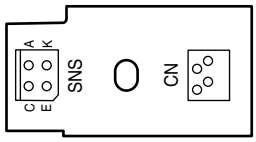
(7) Toner Low Sensor PCB (PRT PCB)



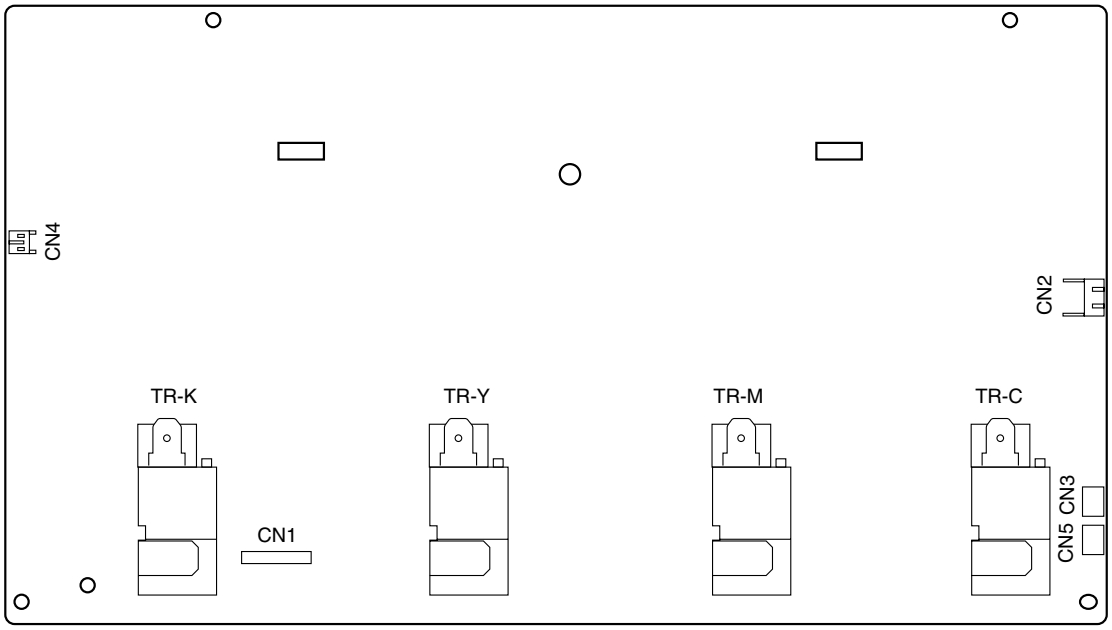
(8) Entrance Sensor PCB (RSF PCB)



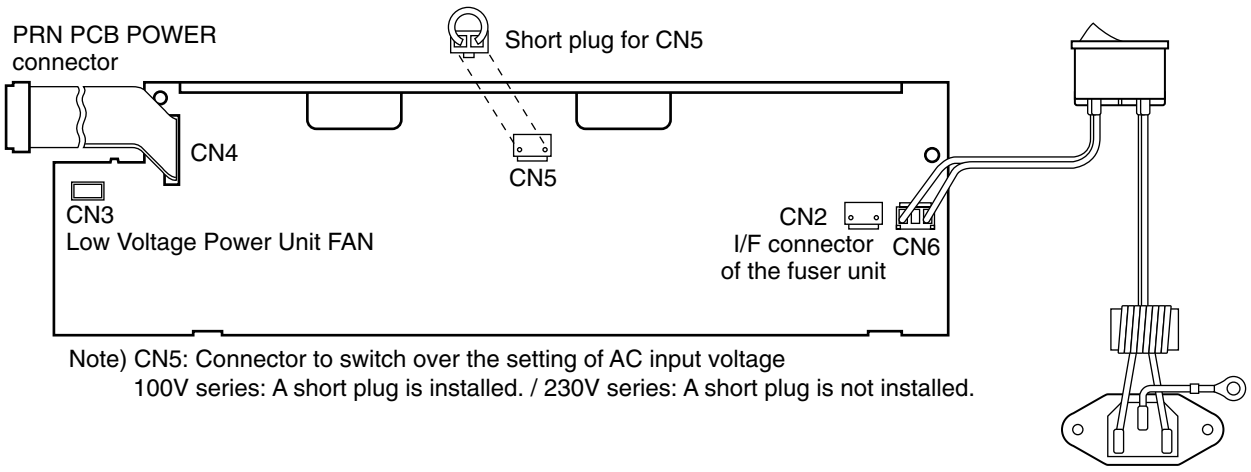
(9) Color Sensor PCB (PRC PCB)



(10) High-voltage power supply PCB

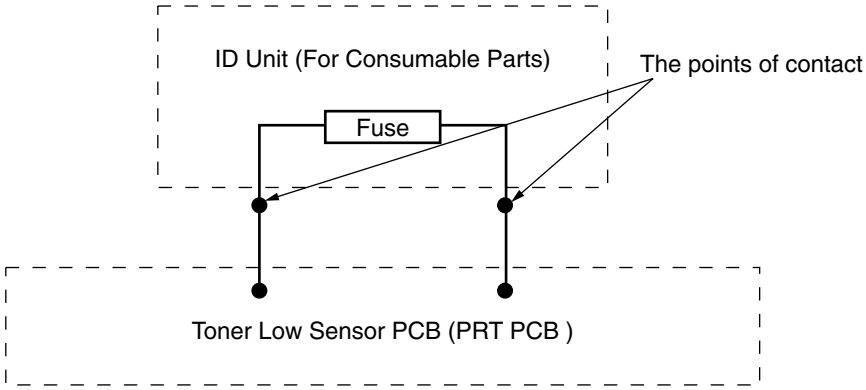


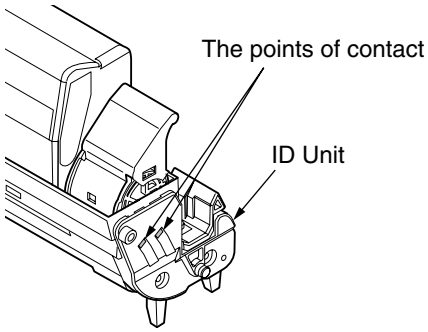
(11) Low-voltage power supply PCB



Note) CN5: Connector to switch over the setting of AC input voltage
100V series: A short plug is installed. / 230V series: A short plug is not installed.

(12) ID Unit





(13) Transfer Belt Unit

